LBT-V302/V302CD

SERVICE MANUAL
REVISED

AEP Model
UK Model

- LBT-V302/V302CD is composed of following models.
  As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME

SYSTEM NUMBER COMPONENT	LBT-V302	LBT-V302CD
STEREO DECK RECEIVER	HST-V302	HST-V302
TURNTABLE	PS-LX43P	PS-LX43P
SPEAKER SYSTEM	SS-A302	SS-A302
CD PLAYER		CDP-M18

SPECIFICATIONS

General

Power requirements	220 V AC, 50 Hz (excluding UK model) 240 V AC, 50 Hz (UK model)
Power consumption	100 W (excluding UK model) 170 W (UK model)
Weight	Approx. 7.6kg
Dimensions	Approx. 355 × 290 × 320 mm (w/h/d, including projections)

Supplied accessories
Remote commander RM-S330/S330W (1)
Batteries Sony SUM-3 (NS) (2)
FM wire antenna (1, excluding West Germany model)
AM loop antenna (1)
45-rpm adaptor (1)

PARTS LIST

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- WG: West Germany model, IT: Italian model.

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-465-414-11	(GRY)... COMMANDER, REMOTE (RM-S330)
1-465-456-11	(WHT)... COMMANDER, REMOTE (RM-S330W)
1-501-369-11	(AEP, IT)... ANTENNA
1-501-374-11	ANTENNA, LOOP
3-701-806-00	ADAPTOR, 45, (E)
3-707-584-01	(WHT)... COVER, BATTERY (for RM-S330W)
3-707-584-11	(GRY)... COVER, BATTERY (for RM-S330)
3-751-552-11	(AEP).........MANUAL, INSTRUCTION
3-751-552-41	(AEP, WG, IT)... MANUAL, INSTRUCTION
3-751-552-51	(UK)..........MANUAL, INSTRUCTION
*4-896-384-01	CUSHION (R) (for PS-LX43P)
*4-896-385-01	CUSHION (L) (for PS-LX43P)
*4-914-075-01	CUSHION (SP)
4-921-934-01	SHEET, PROTECTION (for HST-V302)
*4-935-383-01	CUSHION (for HST-V302)
*4-937-338-01	(AEP, WG, IT)... INDIVIDUAL CARTON
*4-937-339-01	(UK:V302CD)... INDIVIDUAL CARTON
*4-937-340-01	(UK:V302).....INDIVIDUAL CARTON

COMPACT Hi-Fi STEREO SYSTEM

SONY®

MICROFILM
9-955-689-12

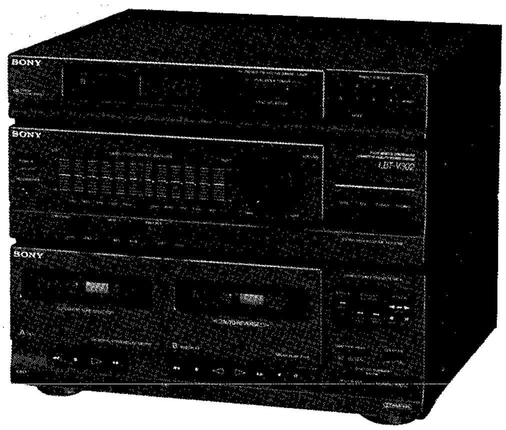
Sony Corporation
Audio Group

English
90E0560-1
Printed in Japan
© 1990. 5
Published by Customer Relations and Service Group

HST-V302

SERVICE MANUAL

AEP Model
UK Model



HST-V302 is the stereo deck receiver section in the compact Hi-Fi stereo system LBT-V302/V302CD.

Model Name Using Similar Mechanism	DECK A	HST-D301
	DECK B	HST-D501/D501CD
Tape Transport Mechanism Type	DECK A	TCM-170VA1
	DECK B	TCM-170RB1

SPECIFICATIONS

Tuner

System	FM stereo FM/AM superheterodyne tuner
FM tuner section	
Tuning range	87.5 to 108 MHz
Antenna	75 ohms unbalanced
Intermediate frequency	10.7 MHz
MW/LW tuner section	
Tuning range	MW: 522 to 1,611 kHz (Italian model) 531 to 1,602 kHz (other models) LW: 144 to 288 kHz (Italian model) 153 to 279 kHz (other models)
Antenna	AM loop antenna External antenna terminal
Intermediate frequency	450 kHz

Amplifier

Continuous RMS power output
30 W + 30 W (6 ohms, at 1 kHz, 0.7% THD)
Music power output 60 W + 60 W (6 ohms, at 1 kHz, 10% THD)

Input	Jack type	Sensitivity	Impedance
PHONO IN	Phono	2 mV	47 kohms
CD IN	Phono	200 mV	47 kohms

Output	Jack type	Impedance
SURROUND SPEAKER	Phono	Accepts speakers of 8 to 16 ohms
HEADPHONES	Stereophone	Accepts headphones of 8 ohms or more

Frequency response	CD: 15 Hz to 50 kHz $^{+0}_{-3}$ dB

Cassette deck

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF With Type II cassette (Sony UX-S) 40 Hz to 14 kHz (±3 dB) With Type I cassette (Sony HF-S) 40 Hz to 13 kHz (±3 dB)
Wow and flutter	±0.2% (DIN)

General

Power requirements	220 V AC, 50 Hz (AEP, WG, IT model) 240 V AC, 50 Hz (UK model)
Power Consumption	100 W (AEP, WG, IT model) 170 W (UK model)
Weight	Approx. 7.6 kg
Dimensions	Approx. 355 × 290 × 320 mm (w/h/d, including projections)

Design and specifications subject to change without notice.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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MICROFILM

STEREO DECK RECEIVER

SONY®

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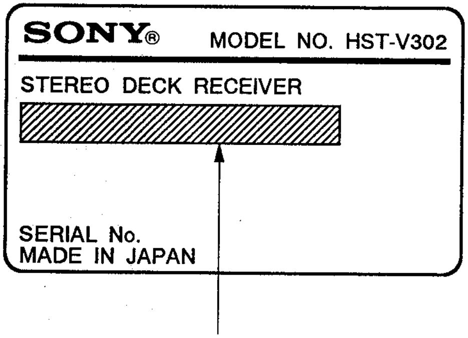
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION

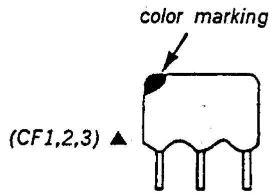
– BACK PANEL (TOP LEFT CORNER) –



AEP, West Germany,
Italian model: AC 220 V~50/60 Hz
UK model: AC 240 V~50/60 Hz

Note on Ceramic Filter (CF1, 2, 3) ▲ Replacement.

This set employs three ceramic filters (CF1, 2, 3) ▲ which should have the same color marking to identify their center frequency. Therefore FM IF offset adjustment by patern bridged is necessary to match the center frequency of the ceramic filters used with FM intermediate frequency.



○: Short
×: Open

Ceramic filter		Mount		FM intermediate frequency (MHz)
Color mark	Center frequency (MHz)	* A	* B	
White	10.750	○	×	10.750
Red	10.700	×	×	10.700
Black	10.650	×	○	10.650

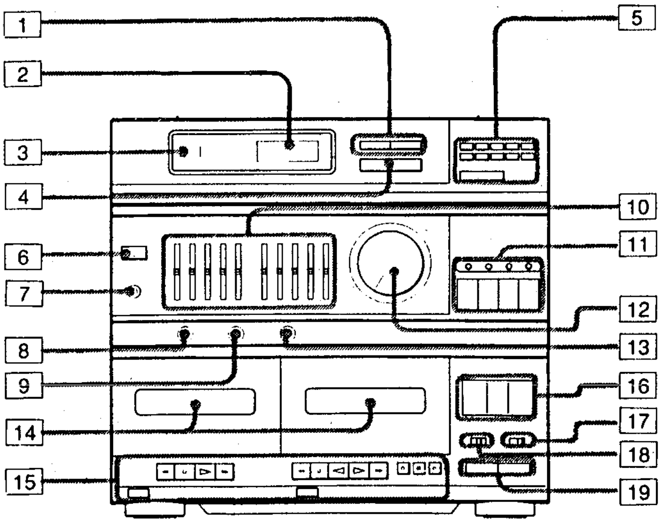
FM intermediate frequency is determined by the three types as shown above, Ceramic filters of same center frequency, i. e., of same color coding should be used for CF1, CF2 and CF3.

When replacing the ceramic filters, perform the FM Discriminator Adjustment.

▲: AEP, UK model: CF1, 2
WG, IT model: CF1, 2, 3

SECTION 1
GENERAL

Location of Controls



Tuner

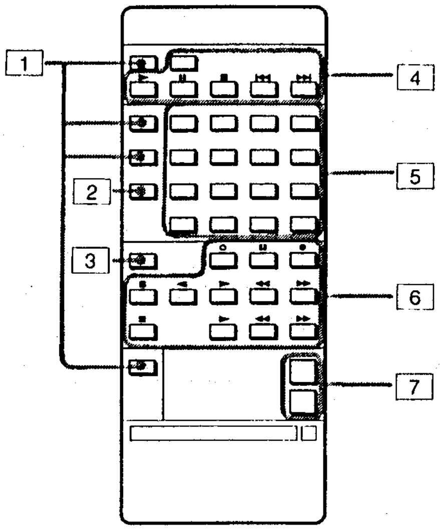
1 DUAL MODE TUNING buttons
2 Band/frequency display
3 Remote sensor
4 BAND SELECTOR
5 Buttons for storing station frequencies

Amplifier

6 POWER switch
7 HEADPHONES jack
8 SURROUND control
9 DBFB (dynamic bass feedback) control
10 GRAPHIC EQUALIZER controls
11 Function selectors and indicators
12 VOLUME control
13 BALANCE control

Cassette deck

14 Cassette holders
15 Tape operation buttons
  ◀◀ Leftward fast winding
  ▶▶ Rightward fast winding
  ▶ Forward play
  ◀ Reverse play
  ■ Stop
  EJECT
  ❚❚ Pause
  ○ Record muting
  ● Record
16 Display window
17 DOLBY NR (noise reduction) switch
18 DIRECTION MODE switch
19 SYNCHRO DUBBING buttons



Remote commander

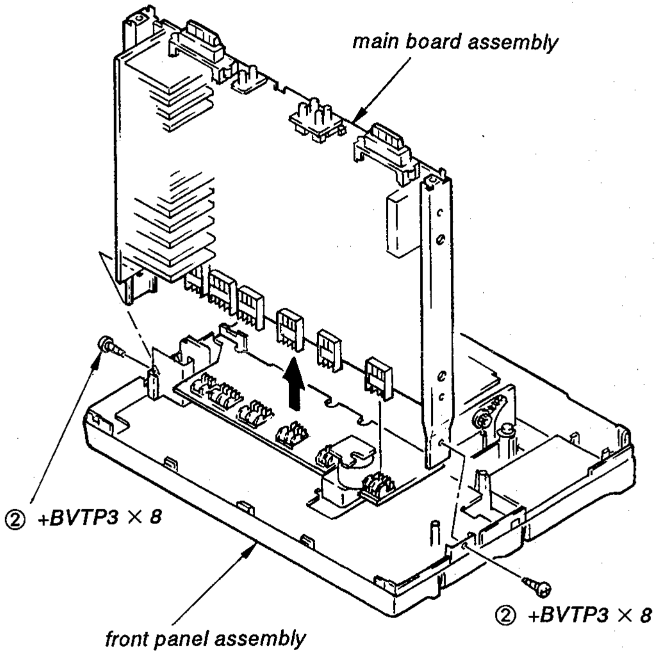
1 Function selectors
2 TUNER/CD selector
3 SHIFT button
4 CD player operation buttons
  The DISC SKIP button functions only on a CD player with multiple disc trays.
5 Numeric buttons
  (1 – 9 for tuner/1 – 16 for CD player, selectable with TUNER/CD)
6 Tape operation button
7 VOLUME buttons

SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

MAIN BOARD ASSEMBLY

① *Remove the case and the bottom chassis assembly with the back panel.*



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTIONS

1. Clean the following parts with a denatured-alcoholmoistened swab:
   - Record/playback head
   - erase head
   - capstan
   - pinch roller
   - rubber belts
   - idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.

Torque Measurement

Mode		Torque Motor	Torque
FWD		CQ-102C	30 – 70 g•cm 0.42 – 0.97 oz•inch
FWD back tension		CQ-102C	2 – 6 g•cm 0.03 – 0.08 oz•inch
FF, REW		CQ-201B	90 – 160 g•cm 1.26 – 2.22 oz•inch
DECK B only	REV	CQ-102RB	30 – 70 g•cm 0.42 – 0.97 oz•inch
	REV back tension	CQ-102RB	2 – 6 g•cm 0.03 – 0.08 oz•inch
	FF.,REW	CQ-201B	90 – 160 g•cm 1.26 – 2.22 oz•inch

3-2. ELECTRICAL ADJUSTMENTS

CASSETTE SECTION

PRECAUTIONS

1. The adjusment should be performed in the order given in this service manual.
   The adjustments should be performed for both L-CH and R-CH.
2. Switches and controls should be set as follows unless otherwise specified.
   DOLBY NR switch: OFF
   DIRECTION MODE switch: ⇄
   Function selector: CD

- **Test Tape**

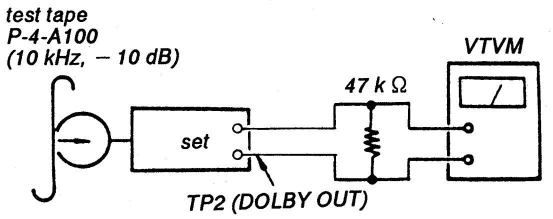
Type	Signal	User for
P-4-A100	10 kHz, – 10 dB	Azimuth Adjustment
P-4-L300	315 Hz, 0 dB	PB Level Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjsutment

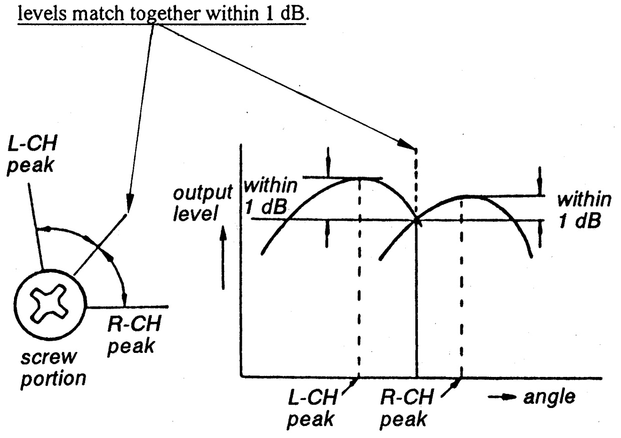
DECK A **DECK B**

Procedure:

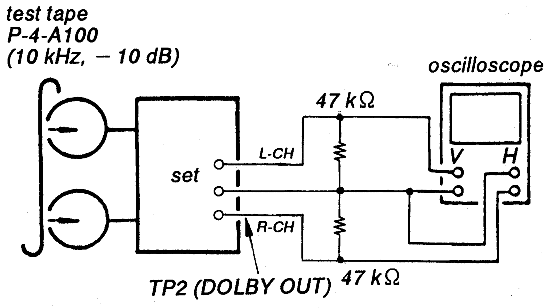
1. Mode: Playback

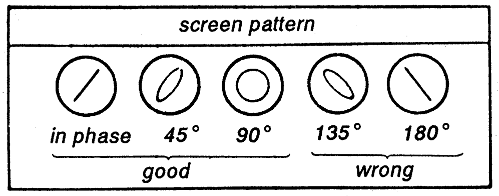

test tape
P-4-A100
(10 kHz, – 10 dB)
VTVM
47 kΩ
set
TP2 (DOLBY OUT)

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.


L-CH peak
output level
within 1 dB
within 1 dB
R-CH peak
screw portion
L-CH peak
R-CH peak
angle

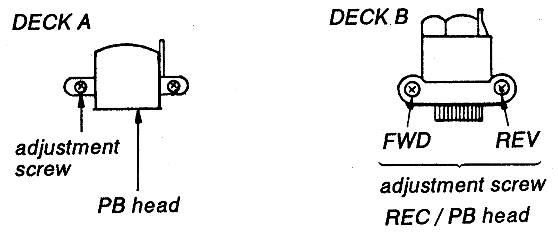
3. Phase Check
Mode: playback


test tape
P-4-A100
(10 kHz, – 10 dB)
oscilloscope
47 kΩ
set
L-CH
R-CH
V
H
TP2 (DOLBY OUT)
47 kΩ


screen pattern
in phase
45°
90°
135°
180°
good
wrong

4. Repeat steps 1 – 3 in REV playback mode.
5. After the adjsutment, lock the screws with locking compound.

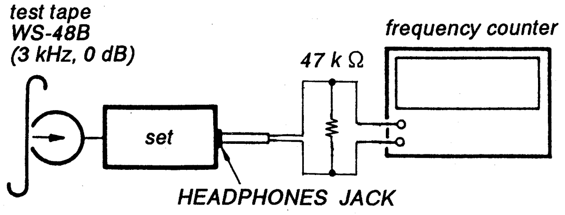
Adjsutment Location:


DECK A
DECK B
adjustment screw
PB head
FWD
REV
adjustment screw
REC / PB head

Tape Speed Adjustment DECK A DECK B

Procedure:

Mode: playback


test tape
WS-48B
(3 kHz, 0 dB)
frequency counter
47 kΩ
set
HEADPHONES JACK

[Hight speed adjustment]

1. Short CNP708 on control A board.
2. Put the set to FWD playback state.
3. Press and keep on pressing HIGH SPEED DUBBING button.
4. On this time, adjust with the semi-fixed variable resistors (H) on the rear side of M1 (Deck A) and M2 (Deck B) so that the frequency counter reads 6,000 ± 60 Hz.
5. After adjustment, release the short on CNP708.

[Normal speed adjustment]

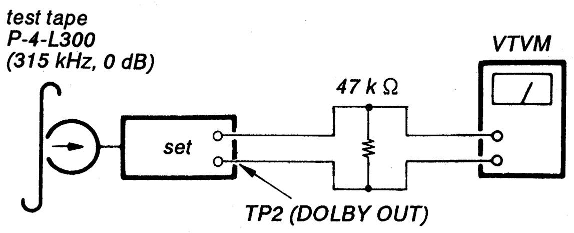
1. Put the set to FWD playback state.
2. On this time, adjust with the semi-fixed variable resistors (N) on the rear side of M1 (Deck A) and M2 (Deck B) so that the frequency counter read 3,000 ± 30 Hz.

Adjustment Location: MD-A/-B board

Playback Level Adjsutment DECK A DECK B

Procedure:

Mode: FWD playback


test tape
P-4-L300
(315 kHz, 0 dB)
VTVM
47 kΩ
set
TP2 (DOLBY OUT)

Adjust Deck A: RV41A (L-CH), RV61A (R-CH) and Deck B: RV41B (L-CH), RV61B (R-CH) so that the VTVM reading becomes the adjustment limits below.

Adjustment Limits:

DOLBY OUT level: – 2.7 ± 1.5 dB (0.48 – 0.67 V)
level difference between the channels: within 1.0 dB.

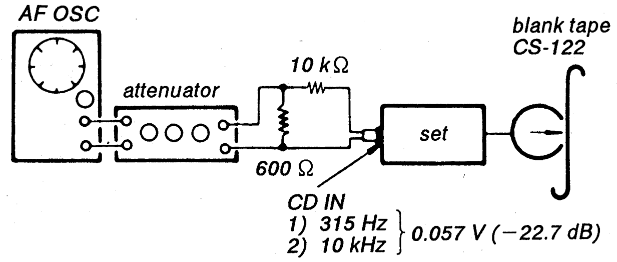
Adjustment Location: MD-A/-B board

Record BIAS Current Adjustment DECK B

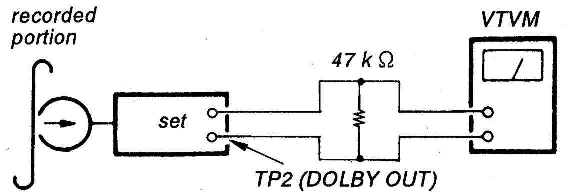
Setting: FUNCTION CD
DOLBY OFF

Procedure:

1. Mode record


AF OSC
attenuator
10 kΩ
600 Ω
set
blank tape
CS-122
CD IN
1) 315 Hz
2) 10 kHz
0.057 V (–22.7 dB)

2. Mode: playback


recorded portion
VTVM
47 kΩ
set
TP2 (DOLBY OUT)

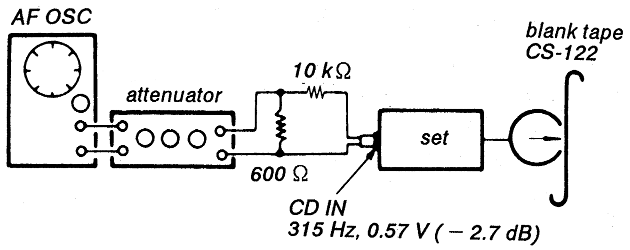
Confirm that the 10 kHz playback output is 0 ± 0.5 dB relative to the 315 Hz output. If necessary, adjust RV42 (L-CH), RV62 (R-CH) and repeat the steps given above.

Adjustment Location: MD-A/-B board

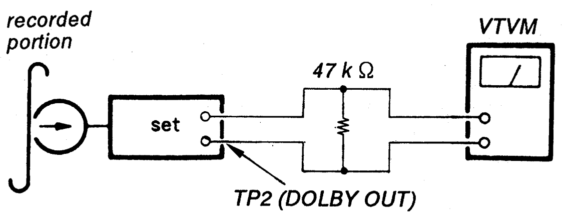
Record Level Adjustment DECK B

Procedure:

1. Mode: record


AF OSC
attenuator
10 kΩ
600 Ω
set
blank tape
CS-122
CD IN
315 Hz, 0.57 V (– 2.7 dB)

2. Mode: playback


recorded portion
VTVM
47 kΩ
set
TP2 (DOLBY OUT)

3. Play back the signal recorded in step 1.
Confirm that the signal level is within – 2.7 ± 0.5 dB (0.54 – 0.60 V). If necessary, adjust RT501 (L-CH), RT551 (R-CH) and repeat the step 1 – 3.

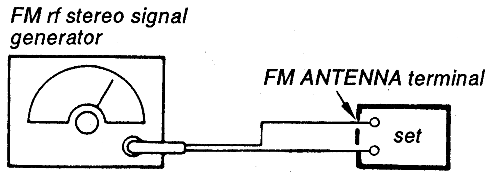
Adjustment Location: main board

TUNER SECTION

• FM Section

FM Tuning Level Adjustment

Setting:


FM rf stereo signal generator
FM ANTENNA terminal
set

Carrier frequency: 98 MHz
Output level: 25 dB μ (0.018 mV)
Modulation: 1 kHz, 40 kHz deviation

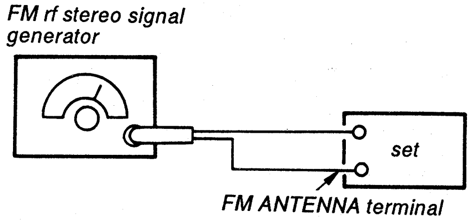
Procedure:

1. Tune the set to 98 MHz.
2. Adjsut RV22 so that the TUNED LED goes on.

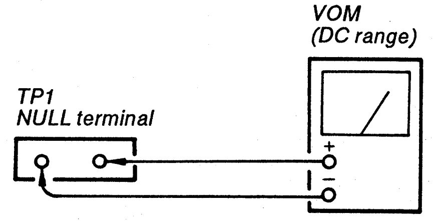
Adjustment Location: main board

FM Discriminator Adjustment (NULL check)

Setting:


FM rf stereo signal generator
set
FM ANTENNA terminal

Carrier frequency: 98 MHz
Output level: 60 dB μ (1 mV)
Modulation: 1 kHz, 40 kHz deviation


VOM
(DC range)
TP1
NULL terminal
+
–

Procedure:

1. Tune the set to 98 MHz.
2. Adjsut T51 for 0 V reading on the VOM.

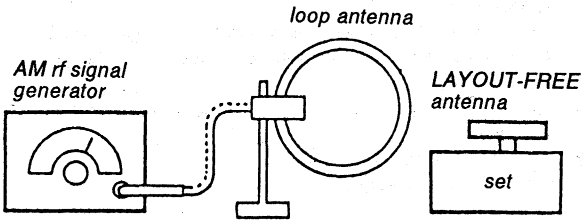
Note: FM tuning level adjustment should be made after FM discriminator adjustment.

Adjustment Location: main board

• AM Section

AM TUNING LEVEL Adjustment

Setting:


loop antenna
AM rf signal generator
LAYOUT-FREE antenna
set

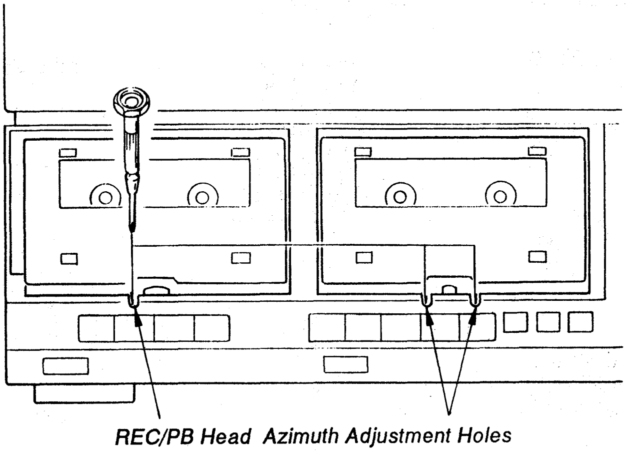
Carrier frequency: 999 kHz
Modulation: 400 Hz, 30% modulation

Procedure:

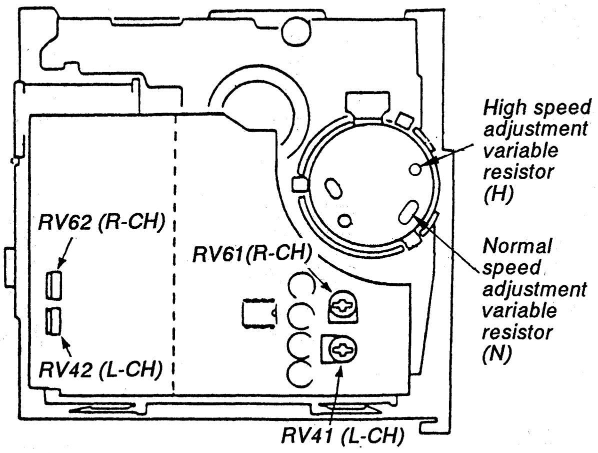
1. Set loop antenna so that the LAYOUT-FREE antenna input level becomes 50 dB μ.
2. Tune the set to 999 kHz.
3. Adjust the RV71 so that the TUNED LED goes on.

Adjustment Location: main board

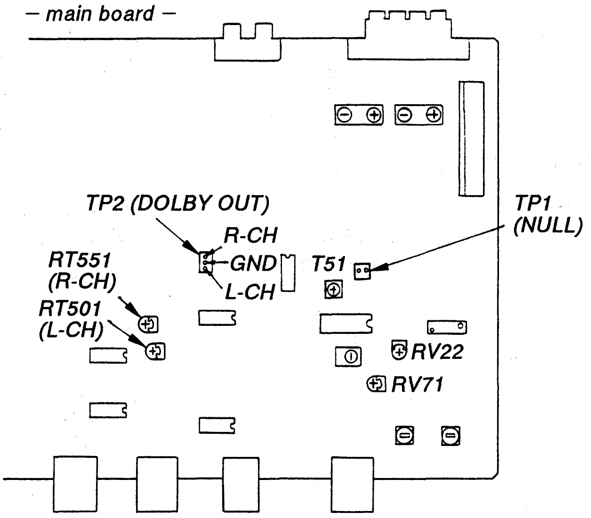
– Adjustment Parts Location Diagram –


REC/PB Head Azimuth Adjustment Holes

– MD board –


High speed adjustment variable resistor (H)
Normal speed adjustment variable resistor (N)
RV62 (R-CH)
RV61(R-CH)
RV42 (L-CH)
RV41 (L-CH)

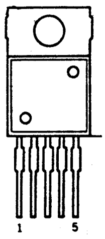
– main board –


TP2 (DOLBY OUT)
R-CH
GND
L-CH
TP1 (NULL)
T51
RT551 (R-CH)
RT501 (L-CH)
RV22
RV71

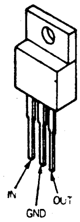
SECTION 4
DIAGRAMS

- **Semiconductor Lead Layouts**

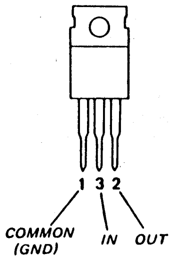
L78MR06



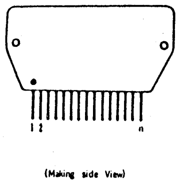
M5F7805
M5F7807
M5F7812



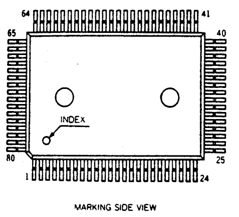
M5F7907


1 3 2
COMMON (GND)
IN
OUT

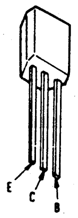
STK-4132-2


1 2
n
(Making side View)

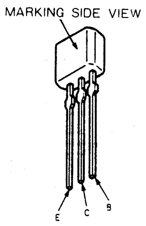
µPD75308GF-491-3B9


64
41
65
40
INDEX
80
25
1
24
MARKING SIDE VIEW

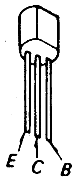
DTA114ES
DTA124ES
DTA144ES
DTC144ES
2SA1317-STU
2SC2603-EF
2SC2724-CD
2SC3622A-LK



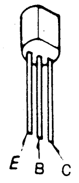
2SA1175-HFE


MARKING SIDE VIEW
E
C
B

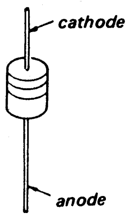
2SB1068-K
2SC1387
2SC1841-PAFAEA
2SC3112-B



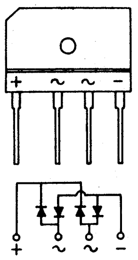
2SB1116



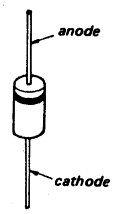
HZS7C2L
1SS120


cathode
anode

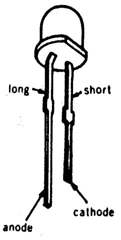
RBA-402



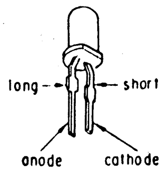
10E2N


anode
cathode

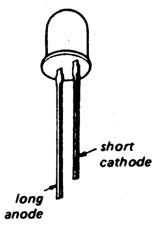
SEL2210S


long
short
anode
cathode

SEL2210S-C
SEL4B14A-D


long
short
onode
cathode

SEL4414E-C
SEL4914A-CD


short
cathode
long
anode

Note on Schematic Diagram:

- *A, *B : See page 2 Note on Ceramic Filter (CF1, 2, 3) ▲ Replacement.
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ⊏⊐ : nonflammable resistor.
- ∿ : fusible resistor.

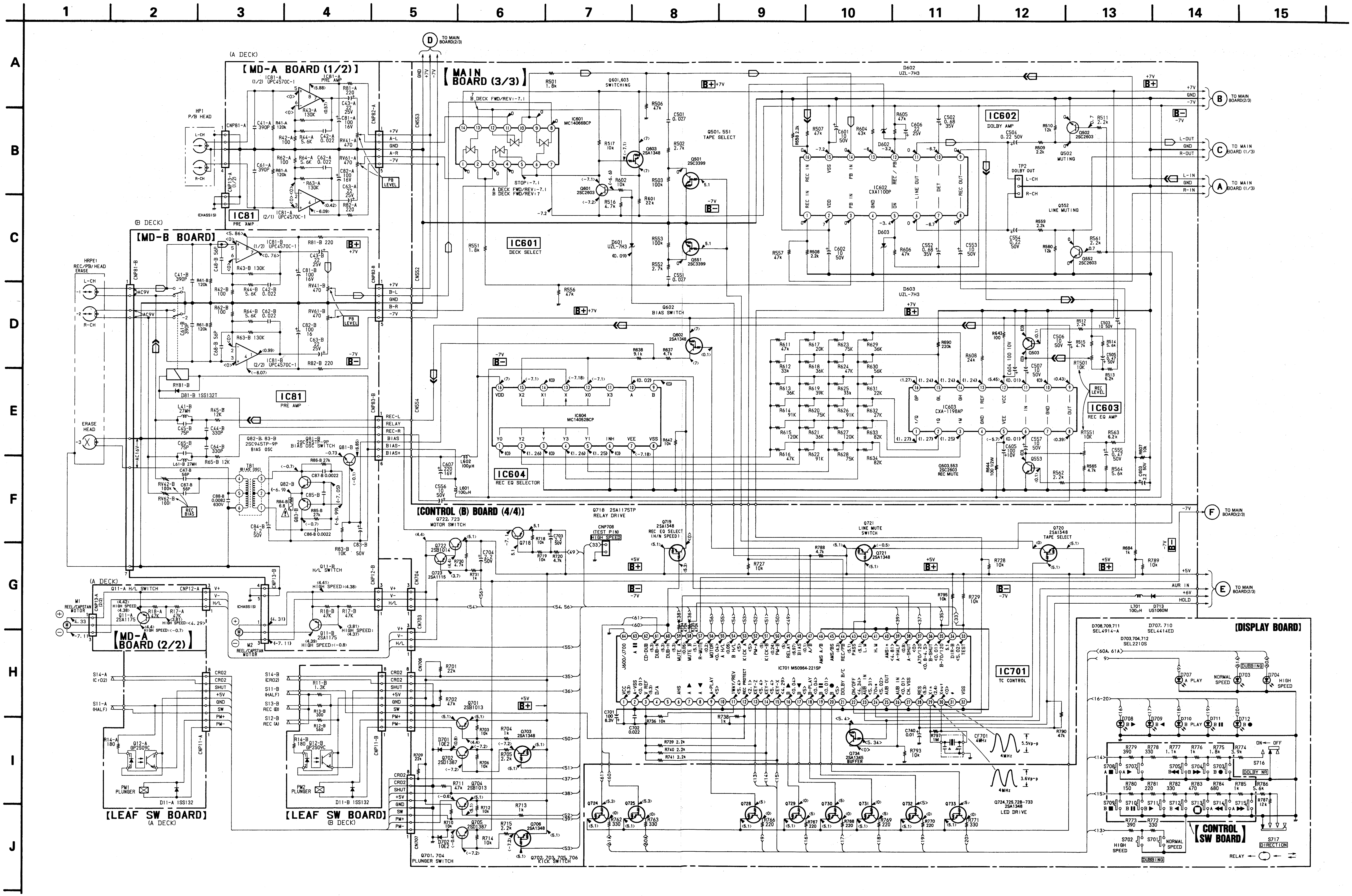
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B + Line.
- B− : B − Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM　　< > : PLAY
  ( ) : MW　　≪ ≫ : REC
  [ ] : LW
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ▷ : PB(DECK B)
  ▷» : REC(DECK B)
  ⫸ : PHONO
- Abbreviation
  WG : West Germany
  IT : Italian

Note on Printed Wiring Boards:

- *A, *B : See page 2 Note on Ceramic Filter (CF1, 2, 3) ▲ Replacement.
- o——— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- [ ]← : indicates side identified with part number.

4-1. TAPE DECK SECTION SCHEMATIC DIAGRAM



1
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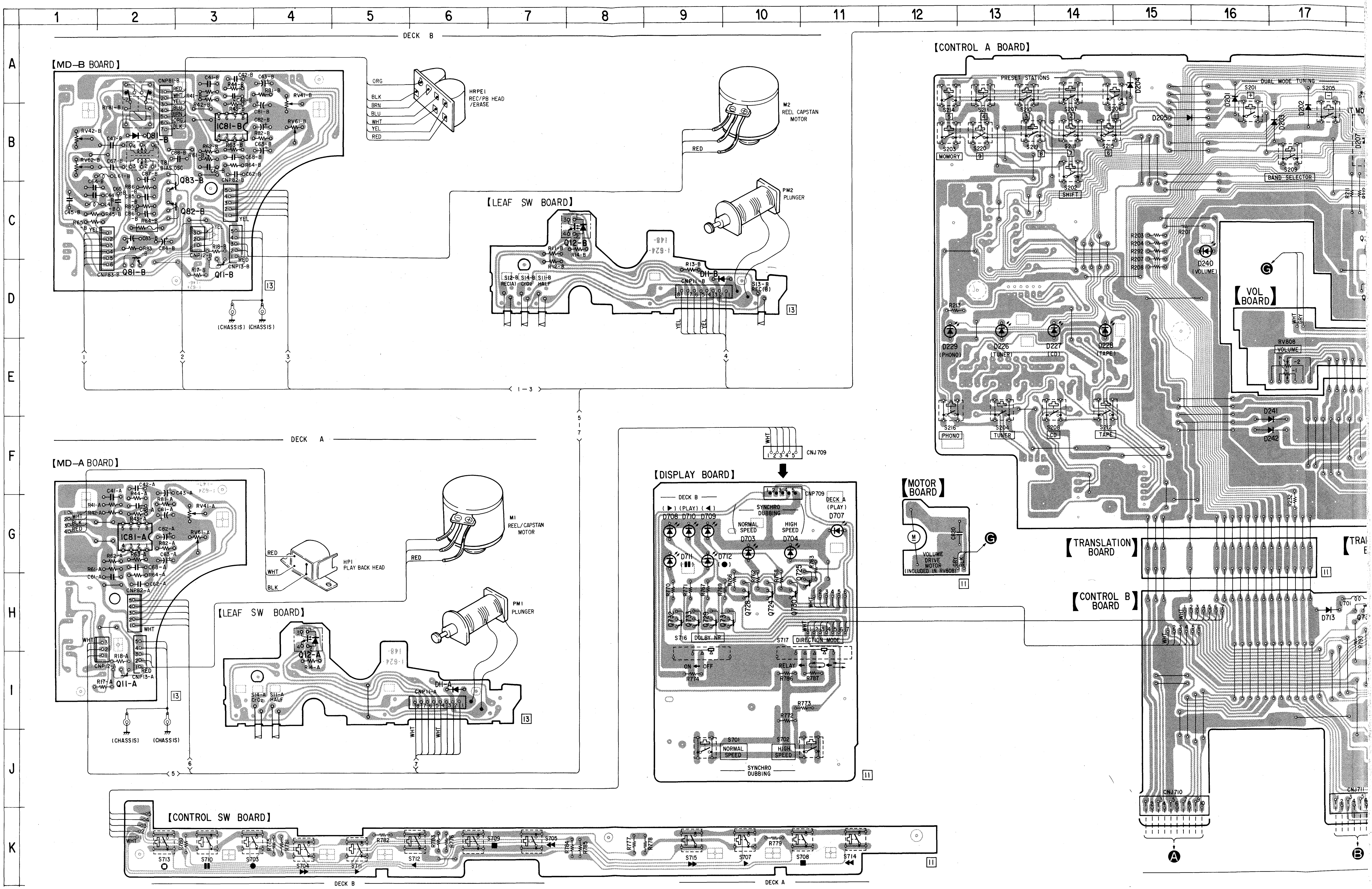
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
(A DECK)
【MD-A BOARD (1/2)】
(B DECK)
【MD-B BOARD】
【MAIN BOARD (3/3)】
【CONTROL (B) BOARD (4/4)】
(A DECK)
【MD-A BOARD (2/2)】
【LEAF SW BOARD】 (A DECK)
【LEAF SW BOARD】 (B DECK)
【DISPLAY BOARD】
【CONTROL SW BOARD】
IC81 PRE AMP
IC601 DECK SELECT
IC601 MC14066BCP
IC602 DOLBY AMP
IC602 CXA1100P
IC603 REC EQ AMP
IC603 CXA-1198AP
IC604 REC EQ SELECTOR
IC604 MC14052BCP
IC701 TC CONTROL
IC701 M50964-221SP
Q501, 551 TAPE SELECT
Q502 MUTING
Q552 LINE MUTING
Q601,603 SWITCHING
Q602 BIAS SWITCH
Q503,553 2SC2603 REC MUTE
Q718 2SA1175TP RELAY DRIVE
Q719 2SA1348 REC EQ SELECT (H/N SPEED)
Q721 LINE MUTE SWITCH
Q720 2SA1348 TAPE SELECT
Q722, 723 MOTOR SWITCH
Q701, 704 PLUNGER SWITCH
Q702, 703, 705, 706 KICK SWITCH
Q734 2SA1345 BUFFER
Q724,725,728-733 2SA1348 LED DRIVE
Q82-B, 83-B 2SC945TP-9P BIAS OSC
Q81-B 2SC945TP-9P BIAS OSC SWITCH
Q11-B H/L SWITCH
Q11-A H/L SWITCH
HP1 P/B HEAD
HRPE1 REC/PB/HEAD ERASE
ERASE HEAD
M1 REEL/CAPSTAN MOTOR
M2 REEL/CAPSTAN MOTOR
PM1 PLUNGER
PM2 PLUNGER
S14-A (CrO2)
S11-A (HALF)
S14-B (CrO2)
S11-B (HALF)
S13-B REC (B)
S12-B REC (A)
CNP708 (TEST PIN) HIGH SPEED
TO MAIN BOARD(2/3)
TO MAIN BOARD (1/3)
PB LEVEL
REC LEVEL
REC BIAS
D602 UZL-7H3
D603 UZL-7H3
TP2 DOLBY OUT
CF701 4MHz
5.5Vp-p
3.6Vp-p
D707 A PLAY
D703 NORMAL SPEED
D704 HIGH SPEED
DUBBING
DOLBY NR
DIRECTION
RELAY

4-2. TAPE DECK, SYSTEM CONTROL SECTION PRINTED WIRING BOARDS • See page 8 for Note


1
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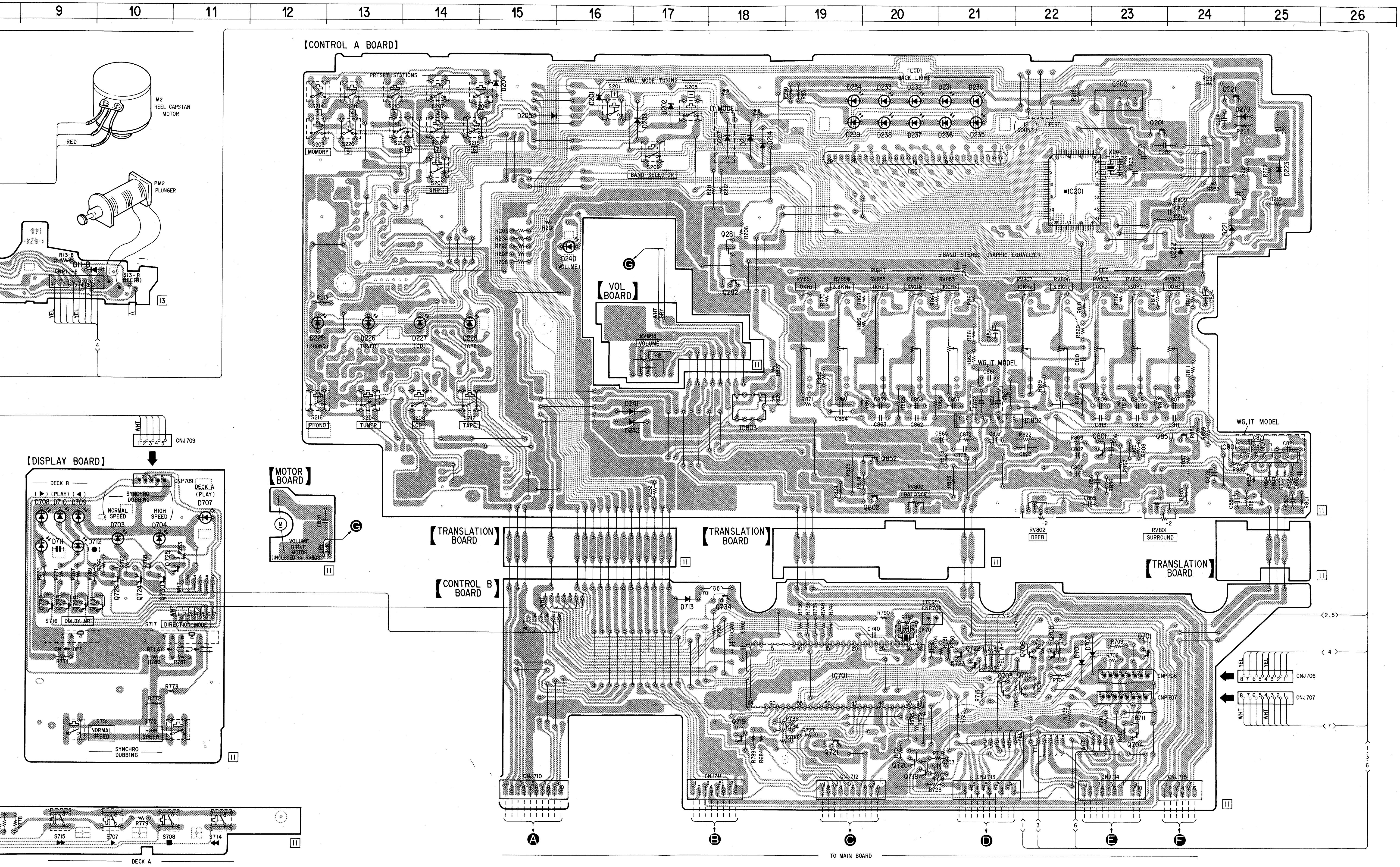
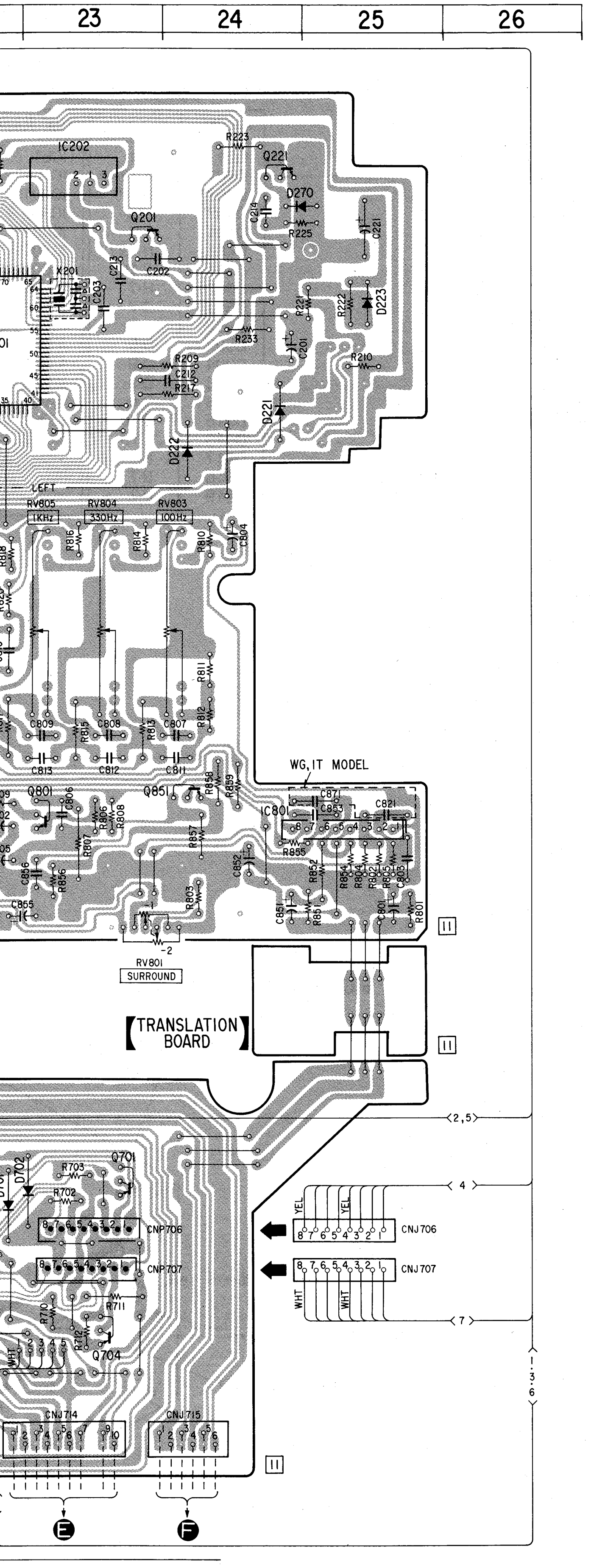
11
12
13
14
15
16
17
A
B
C
D
E
F
G
H
I
J
K
DECK B
【MD–B BOARD】
IC81-B
Q83-B
Q82-B
Q81-B
Q11-B
T81 BIAS OSC
CNP81-B
CNP82-B
CNP83-B
CNP12-B
CNP13-B
HRPE1 REC/PB HEAD /ERASE
ORG
BLK
BRN
BLU
WHT
YEL
RED
M2 REEL CAPSTAN MOTOR
PM2 PLUNGER
【LEAF SW BOARD】
Q12-B
D11-B
S12-B RECIA1
S14-B CrO2
S11-B HALF
S13-B REC(B)
CNP11-B
(CHASSIS)
(CHASSIS)
13
1 – 3
5 – 7
DECK A
【MD–A BOARD】
IC81-A
Q11-A
CNP82-A
CNP12-A
CNP13-A
M1 REEL/CAPSTAN MOTOR
HP1 PLAY BACK HEAD
PM1 PLUNGER
Q12-A
D11-A
S14-A CrO2
S11-A HALF
CNP11-A
【CONTROL SW BOARD】
S713
S710
S703
S704
S711
S712
S709
S705
S715
S707
S708
S714
DECK B
DECK A
11
CNJ 709
【DISPLAY BOARD】
CNP709
DECK B
(▶) (PLAY) (◀)
SYNCHRO DUBBING
DECK A (PLAY)
D708
D710
D709
D707
NORMAL SPEED D703
HIGH SPEED D704
D711
D712
S716 DOLBY NR
S717 DIRECTION MODE
ON ← OFF
RELAY
S701 NORMAL SPEED
S702 HIGH SPEED
SYNCHRO DUBBING
【CONTROL A BOARD】
PRESET STATIONS
DUAL MODE TUNING
S203 MOMORY
S220
S210
S202 SHIFT
S207
S218
S215
S206
S201
S205
S209 BAND SELECTOR
D204
D205
D201
D202
D203
D240 (VOLUME)
D229 (PHONO)
D226 (TUNER)
D227 (CD)
D228 (TAPE)
S216 PHONO
S204 TUNER
S208 CD
S212 TAPE
D241
D242
【VOL BOARD】
RV608 VOLUME
G
【MOTOR BOARD】
M
VOLUME DRIVE MOTOR (INCLUDED IN RV608)
【TRANSLATION BOARD】
【CONTROL B BOARD】
D713
CNJ710
CNJ711
A
B


9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
【CONTROL A BOARD】
PRESET STATIONS
MOMORY
SHIFT
DUAL MODE TUNING
BAND SELECTOR
IT MODEL
LCD BACK LIGHT
LCD1
IC201
IC202
IF COUNT
(TEST)
5 BAND STEREO GRAPHIC EQUALIZER
RIGHT
LEFT
RV857 10KHz
RV856 3.3KHz
RV855 1KHz
RV854 330Hz
RV853 100Hz
RV807 10KHz
RV806 3.3KHz
RV805 1KHz
RV804 330Hz
RV803 100Hz
WG, IT MODEL
D240 (VOLUME)
D229 (PHONO)
D226 (TUNER)
D227 (CD)
D228 (TAPE)
S216 PHONO
S204 TUNER
S208 CD
S212 TAPE
【VOL BOARD】
RV808 VOLUME
IC803
IC802
IC801
RV809 BALANCE
RV802 DBFB
RV801 SURROUND
M2 REEL CAPSTAN MOTOR
RED
PM2 PLUNGER
CNP11-B
S13-B REC(B)
YEL
【DISPLAY BOARD】
CNJ709
CNP709
DECK B
(▶) (PLAY) (◀)
SYNCHRO DUBBING
NORMAL SPEED
HIGH SPEED
DECK A (PLAY)
S716 DOLBY NR
S717 DIRECTION MODE
ON ← OFF
RELAY
S701 NORMAL SPEED
S702 HIGH SPEED
SYNCHRO DUBBING
S715 ▶▶
S707 ▶
S708 ■
S714 ◀◀
DECK A
【MOTOR BOARD】
VOLUME DRIVE MOTOR (INCLUDED IN RV808)
GRY
BLK
【TRANSLATION BOARD】
【CONTROL B BOARD】
IC701
CNP708 (TEST)
CF701
CNP706
CNP707
CNJ706
CNJ707
WHT
CNJ710
CNJ711
CNJ712
CNJ713
CNJ714
CNJ715
A
B
C
D
E
F
G
TO MAIN BOARD

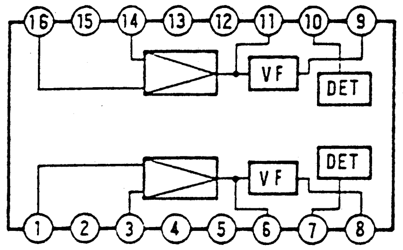

23
24
25
26
IC202
R223
Q221
D270
R225
C214
Q201
C213
C202
X201
C203
R222
D223
C221
R233
C201
R203
R212
R211
R210
D221
D222
LEFT
RV805 1kHz
RV804 330Hz
RV803 100Hz
C809
C808
C807
C813
C812
C811
WG, IT MODEL
Q801
Q851
IC801
RV801 SURROUND
TRANSLATION BOARD
<2,5>
<4>
<7>
1·3·6
R705
Q701
D702
R702
CNP706
CNP707
CNJ706
CNJ707
YEL
WHT
R711
Q704
CNJ714
CNJ715
E
F

• Semiconductor Location

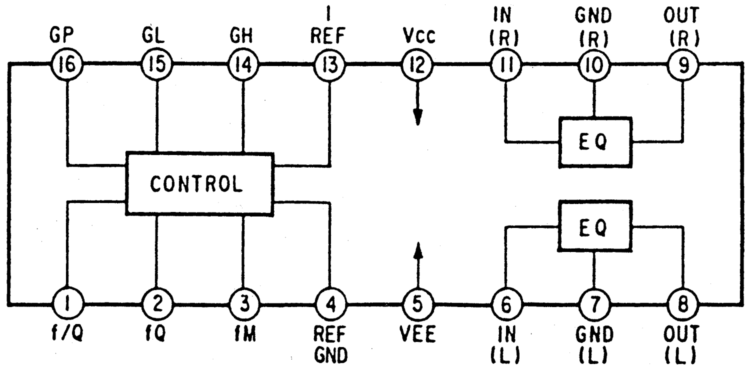
Ref. No.	Location	Ref. No.	Location
D11	D-9, I-6	IC81	B-3, G-2
D81	B-2	IC201	C-22
D201	B-16	IC202	B-23
D202	B-17	IC701	I-19
D203	B-17	IC801	F-25
D204	A-15	IC802	F-21
D205	B-15	IC803	F-18
D207	B-18		
D211	B-18	Q11	D-3, I-2
D214	B-18	Q12	C-8, H-4
D221	C-24	Q81	D-2
D222	C-24	Q82	C-2
D223	B-25	Q83	C-2
D226	D-13	Q201	B-23
D227	D-14	Q221	B-24
D228	D-14	Q281	C-18
D229	D-12	Q282	D-18
D230	B-21	Q701	I-23
D231	B-21	Q702	I-22
D232	B-20	Q703	I-21
D233	B-20	Q704	J-23
D234	B-19	Q705	I-22
D235	B-21	Q706	I-22
D236	B-21	Q718	J-20
D237	B-20	Q719	J-18
D238	B-20	Q720	J-20
D239	B-19	Q721	J-19
D240	C-16	Q722	I-21
D241	F-16	Q723	I-21
D242	F-16	Q724	H-10
D270	B-24	Q725	H-11
D701	I-22	Q728	H-10
D702	I-23	Q729	H-9
D703	G-10	Q730	H-10
D704	G-10	Q731	H-10
D707	G-11	Q732	H-9
D708	G-9	Q733	H-9
D709	G-9	Q734	H-18
D710	G-9	Q801	F-23
D711	G-9	Q802	G-20
D712	G-9	Q851	F-24
D713	H-17	Q852	F-20

• IC BLOCK DIAGRAMS

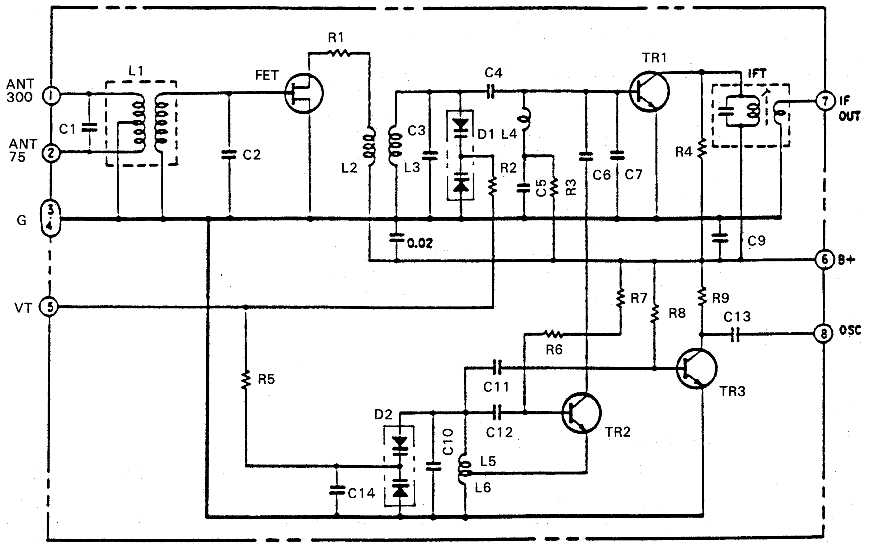
IC602 CXA1100P


16
15
14
13
12
11
10
9
VF
DET
VF
DET
1
2
3
4
5
6
7
8

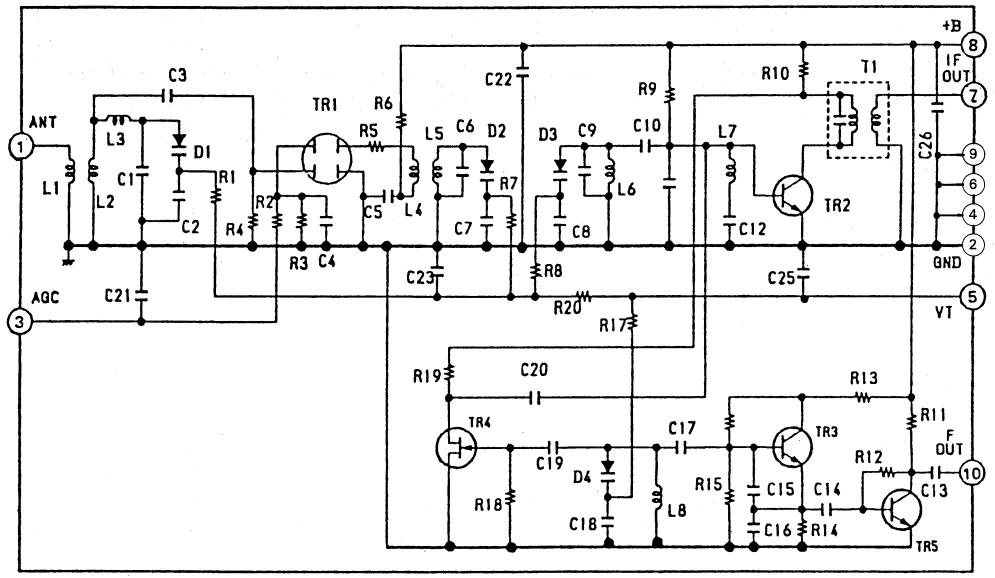
IC603 CXA1198AP


GP
GL
GH
I REF
Vcc
IN (R)
GND (R)
OUT (R)
16
15
14
13
12
11
10
9
EQ
CONTROL
EQ
1
2
3
4
5
6
7
8
f/Q
fQ
fM
REF GND
VEE
IN (L)
GND (L)
OUT (L)

• FM FRONT-END (FE 101) AEP, UK model

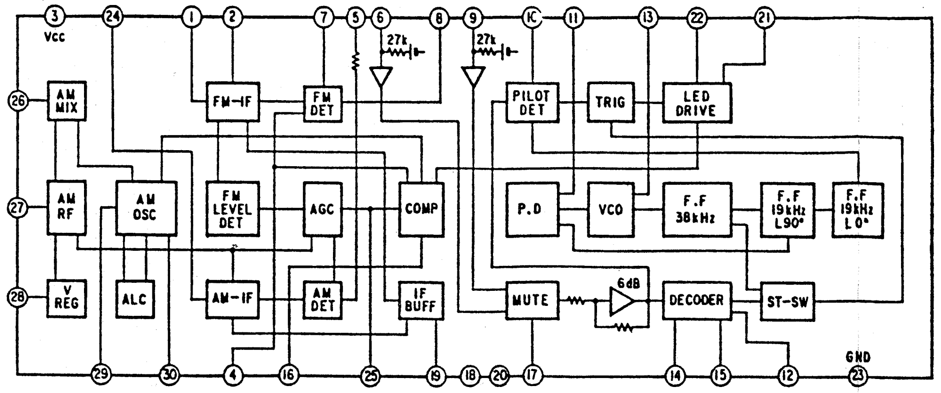

ANT 300
ANT 75
G
VT
L1
C1
C2
FET
R1
L2
L3
C3
C4
D1
L4
R2
C5
R3
C6
C7
0.02
TR1
IFT
R4
C9
IF OUT
B+
OSC
R5
R6
R7
R8
R9
C13
C11
C12
TR2
TR3
D2
C10
L5
L6
C14
①
②
③
④
⑤
⑥
⑦
⑧

WG, IT model

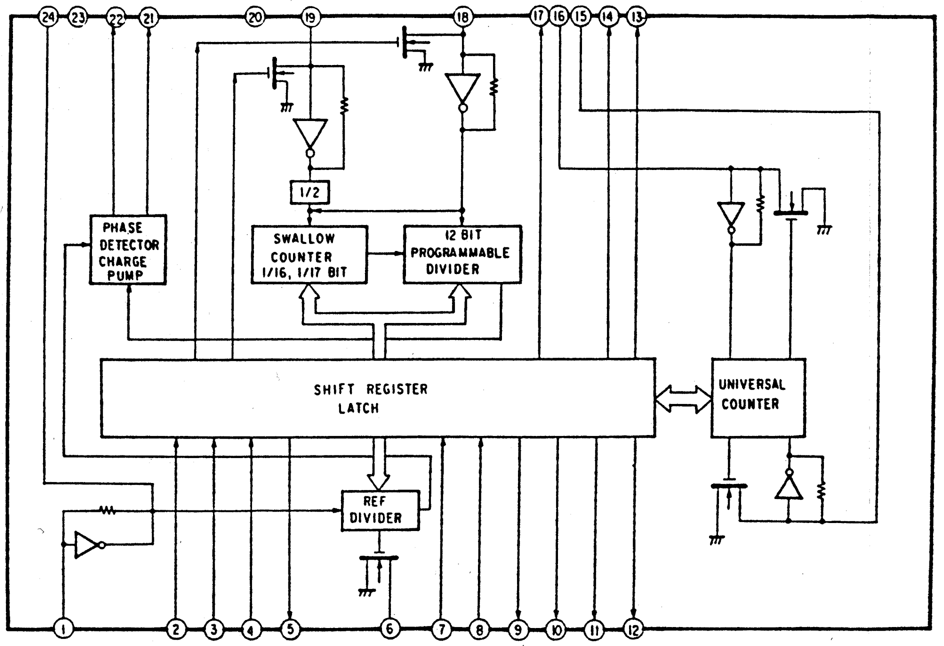

ANT
AGC
L1
L2
L3
C1
C2
C3
D1
R1
R2
R3
R4
C4
C21
TR1
R5
R6
C5
L4
L5
C6
D2
R7
C7
C22
C23
D3
C9
C8
L6
R8
R20
R17
C10
R9
L7
C12
TR2
R10
T1
C26
C25
+B
IF OUT
GND
VT
R19
C20
TR4
C19
D4
R18
C18
L8
C17
R15
C15
C16
R14
C14
TR3
R13
R11
R12
F OUT
C13
TR5

• IC BLOCK DIAGRAM

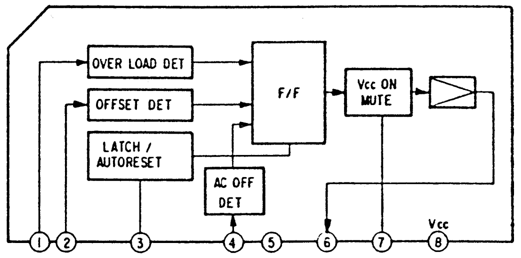
IC051 LA1851N-S


Vcc
GND
AM MIX
AM RF
V REG
AM OSC
ALC
FM-IF
FM LEVEL DET
AM-IF
FM DET
AGC
AM DET
COMP
IF BUFF
27k
PILOT DET
TRIG
LED DRIVE
P.D
VCO
F.F 38kHz
F.F 19kHz L90°
F.F 19kHz L0°
MUTE
6dB
DECODER
ST-SW

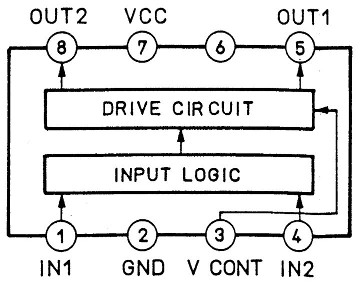
IC101 LC7218


PHASE DETECTOR CHARGE PUMP
1/2
SWALLOW COUNTER 1/16, 1/17 BIT
12 BIT PROGRAMMABLE DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
REF DIVIDER

IC402 µ1237HA


OVER LOAD DET
OFFSET DET
LATCH / AUTORESET
F/F
AC OFF DET
Vcc ON MUTE
Vcc

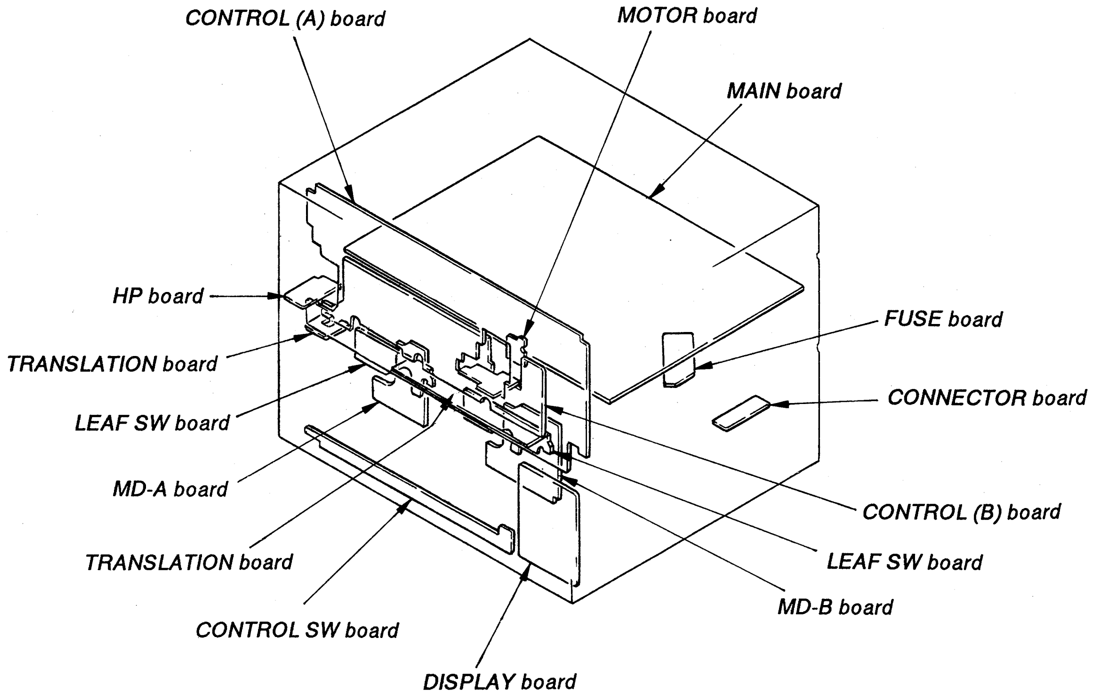
IC803 LB1639


OUT2
VCC
OUT1
DRIVE CIRCUIT
INPUT LOGIC
IN1
GND
V CONT
IN2

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D21	D-4	IC51	G-4	Q1	E-2	Q501	G-9
D401	H-12	IC101	H-2	Q2	F-3	Q502	F-7
D402	H-12	IC301	D-6	Q21	D-5	Q503	J-9
D403	I-12	IC302	F-5	Q22	D-4	Q551	G-9
D404	I-11	IC401	E-14	Q23	D-5	Q552	F-7
D451	H-12	IC402	I-12	Q24	D-4	Q553	I-8
D601	G-10	IC601	H-9	Q25	D-4	Q601	H-10
D602	H-7	IC602	G-7	Q26	E-5	Q602	J-7
D603	G-7	IC603	I-9	Q61	I-2	Q603	I-9
D902	C-9	IC604	J-7	Q66	I-3		
D903	D-9	IC901	C-7	Q91	F-3		
D904	D-9	IC902	I-14	Q92	G-3		
D905	D-9	IC903	E-9	Q101	F-2		
D906	D-9	IC904	H-14	Q102	F-2		
D915	C-10	IC905	D-7	Q103	F-2		
D916	E-10	IC906	E-9	Q104	E-2		
D917	E-7			Q401	H-12		
D918	B-7			Q402	H-12		
D919	B-7			Q451	H-12		

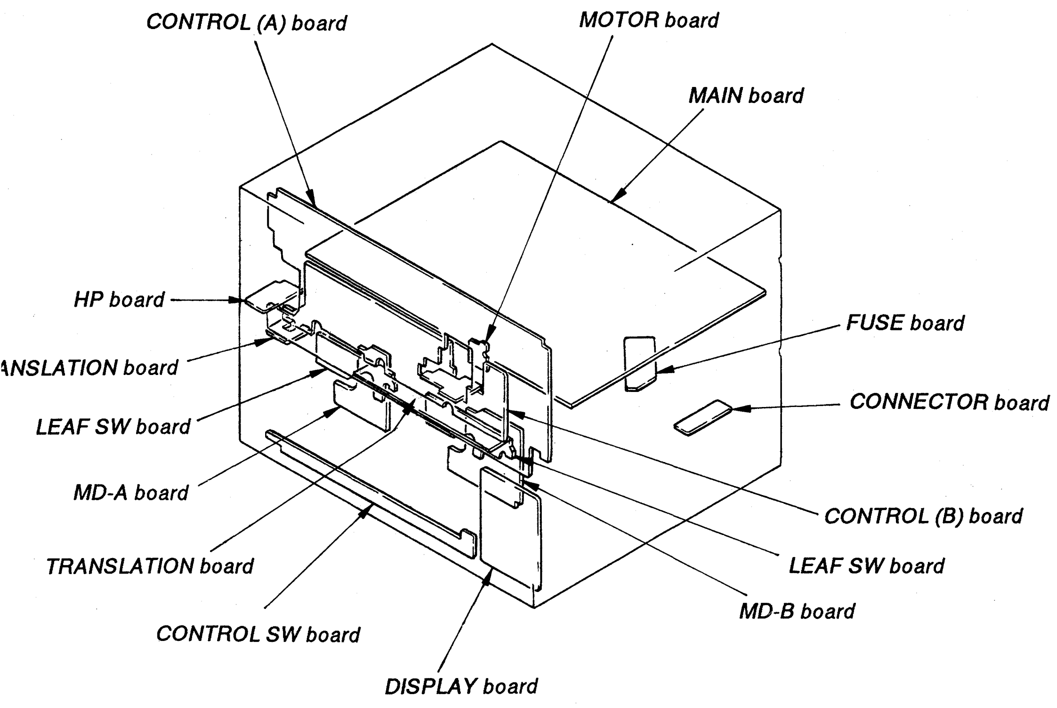
• Circuit Boards Location


CONTROL (A) board
MOTOR board
MAIN board
HP board
FUSE board
TRANSLATION board
CONNECTOR board
LEAF SW board
MD-A board
CONTROL (B) board
TRANSLATION board
LEAF SW board
MD-B board
CONTROL SW board
DISPLAY board

- **Semiconductor Location**

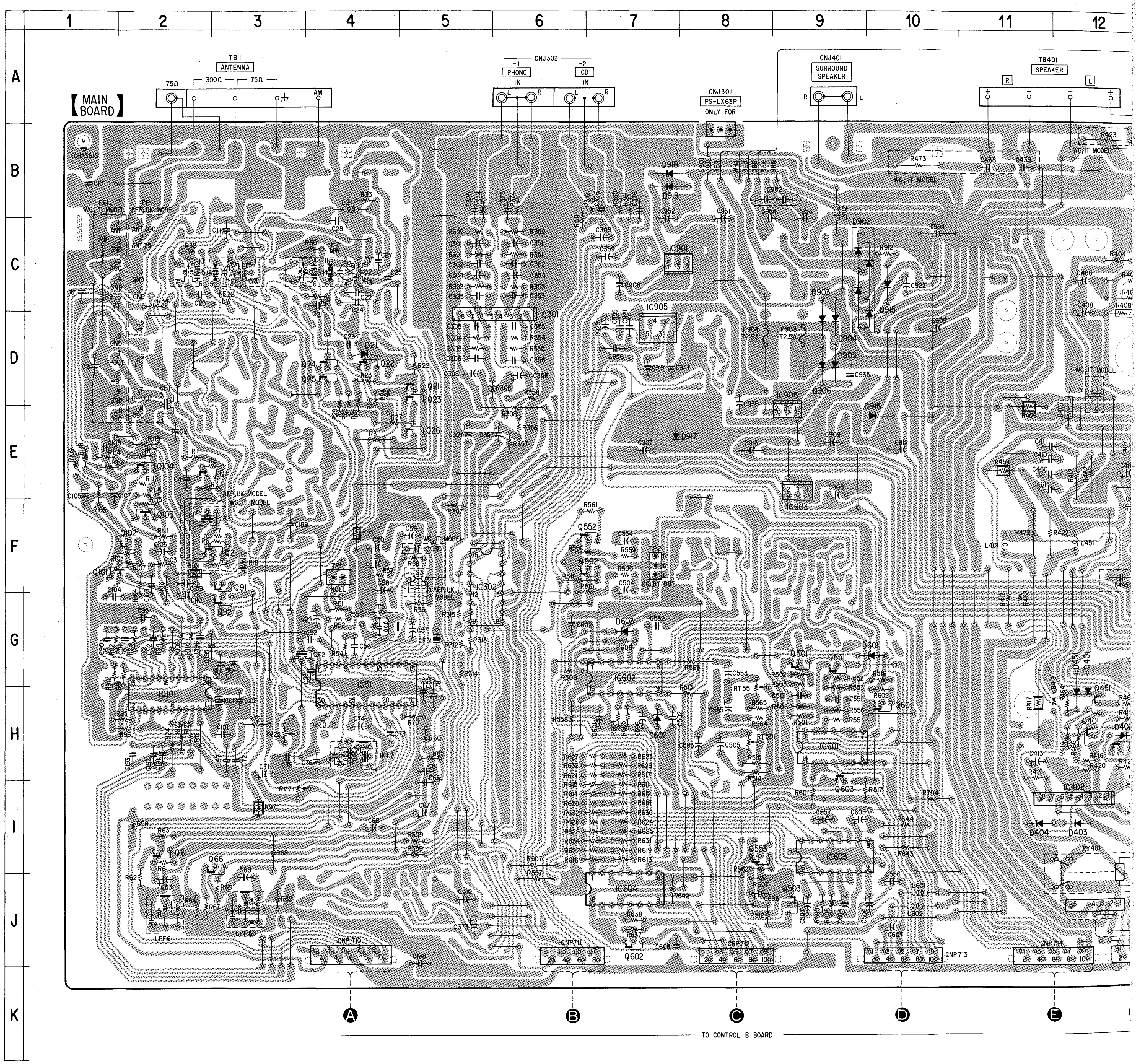
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D21	D-4	IC51	G-4	Q1	E-2	Q501	G-9
D401	H-12	IC101	H-2	Q2	F-3	Q502	F-7
D402	H-12	IC301	D-6	Q21	D-5	Q503	J-9
D403	I-12	IC302	F-5	Q22	D-4	Q551	G-9
D404	I-11	IC401	E-14	Q23	D-5	Q552	F-7
D451	H-12	IC402	I-12	Q24	D-4	Q553	I-8
D601	G-10	IC601	H-9	Q25	D-4	Q601	H-10
D602	H-7	IC602	G-7	Q26	E-5	Q602	J-7
D603	G-7	IC603	I-9	Q61	I-2	Q603	I-9
D902	C-9	IC604	J-7	Q66	I-3		
D903	D-9	IC901	C-7	Q91	F-3		
D904	D-9	IC902	I-14	Q92	G-3		
D905	D-9	IC903	E-9	Q101	F-2		
D906	D-9	IC904	H-14	Q102	F-2		
D915	C-10	IC905	D-7	Q103	F-2		
D916	E-10	IC906	E-9	Q104	E-2		
D917	E-7			Q401	H-12		
D918	B-7			Q402	H-12		
D919	B-7			Q451	H-12		

- **Circuit Boards Location**


CONTROL (A) board
MOTOR board
MAIN board
HP board
ANSLATION board
FUSE board
LEAF SW board
CONNECTOR board
MD-A board
CONTROL (B) board
TRANSLATION board
LEAF SW board
MD-B board
CONTROL SW board
DISPLAY board

4-3. TUNER, AMPLIFIER, POWER SUPPLY SECTION PRINTED WIRING BOARDS

- **See page 8 for Semiconductor Lead Layouts and Note**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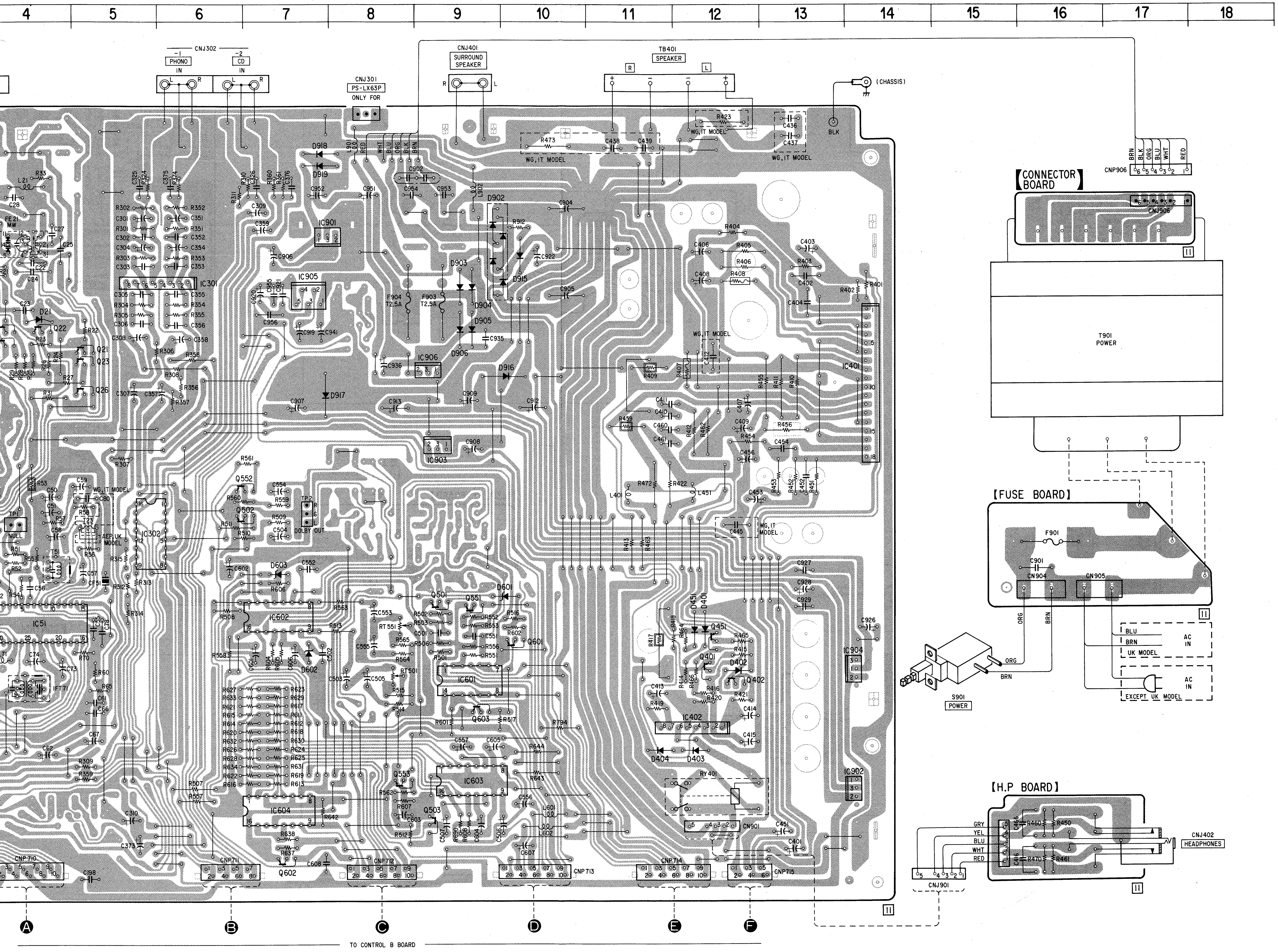
11
12
A
B
C
D
E
F
G
H
I
J
K
MAIN BOARD
TB1 ANTENNA
75Ω
300Ω
75Ω
AM
CNJ302
-1 PHONO IN
-2 CD IN
CNJ301 PS-LX63P ONLY FOR
CNJ401 SURROUND SPEAKER
TB401 SPEAKER
R
L
(CHASSIS)
FE1: WG, IT MODEL
FE1: AEP, UK MODEL
IC901
IC905
IC906
IC903
IC301
IC302
IC51
IC101
IC602
IC601
IC603
IC604
IC402
WG, IT MODEL
AEP, UK MODEL
TP1 NULL
TP2 DOLBY OUT
RY401
CNP710
CNP711
CNP712
CNP713
CNP714
Ⓐ
Ⓑ
Ⓒ
Ⓓ
Ⓔ
TO CONTROL B BOARD

ON PRINTED WIRING BOARDS

Note



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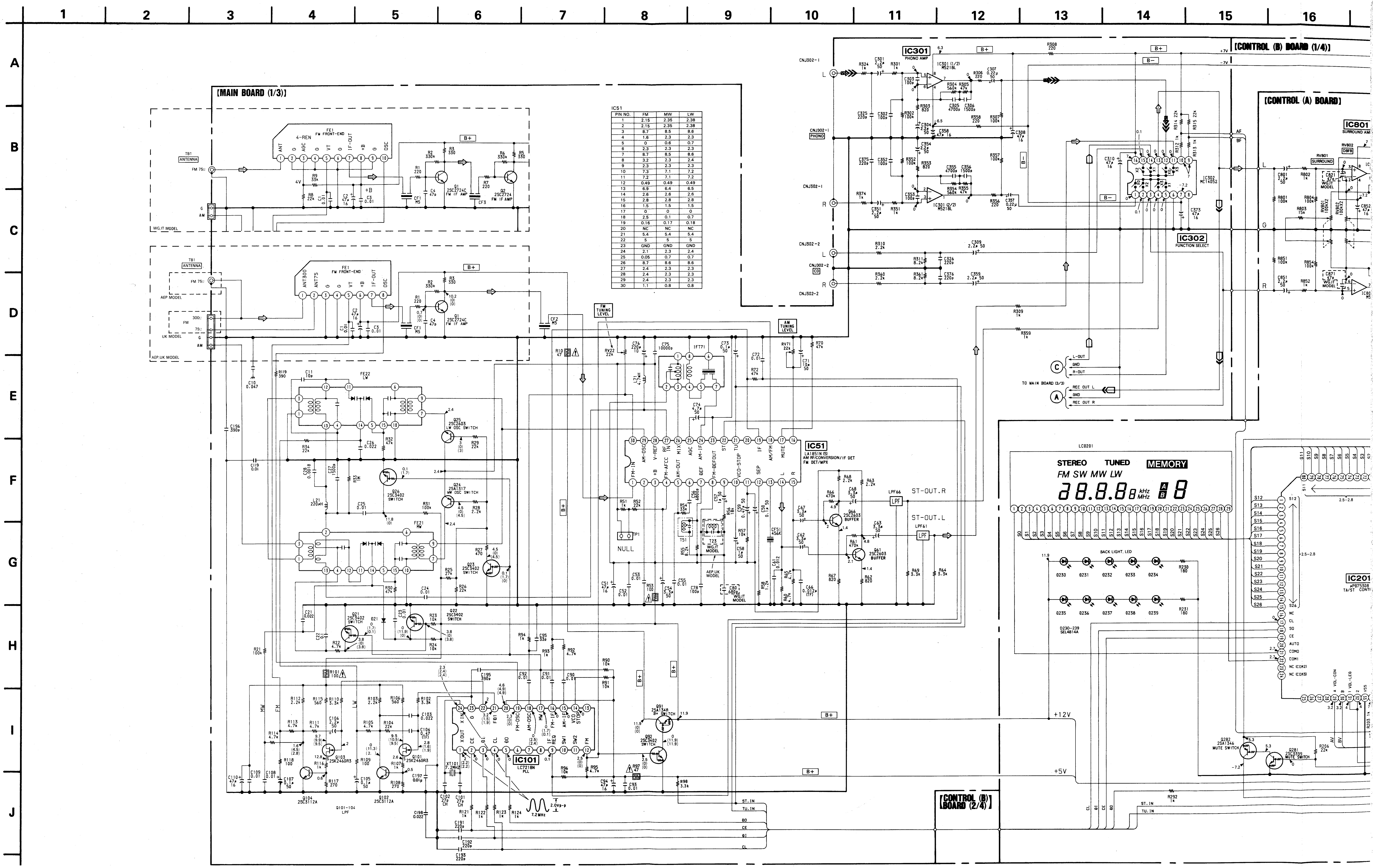
11
12
13
14
15
16
17
18
CNJ302
-1 PHONO IN
-2 CD IN
CNJ301 PS-LX63P ONLY FOR
CNJ401 SURROUND SPEAKER
TB401 SPEAKER
(CHASSIS)
BLK
WG, IT MODEL
CNP906
BRN BLK ORG BLU WHT RED
【CONNECTOR BOARD】
CNJ906
T901 POWER
IC301
IC302
IC401
IC402
IC51
IC601
IC602
IC603
IC604
IC901
IC902
IC903
IC904
IC905
IC906
F903 T2.5A
F904 T2.5A
TP1 NULL
TP2 DOLBY OUT
AEP, UK MODEL
RY401
CNJ901
【FUSE BOARD】
F901
C901
CN904
CN905
ORG
BRN
BLU
UK MODEL
AC IN
EXCEPT UK MODEL
S901 POWER
【H.P BOARD】
GRY
YEL
BLU
WHT
RED
CNJ402 HEADPHONES
CNP710
CNP711
CNP712
CNP713
CNP714
CNP715
A
B
C
D
E
F
TO CONTROL B BOARD

4-4. TUNER, SYSTEM CONTROL, AMPLIFIER, POWER SUPPLY SECTION SCHEMATIC DIAGRAM • See page 8 for Note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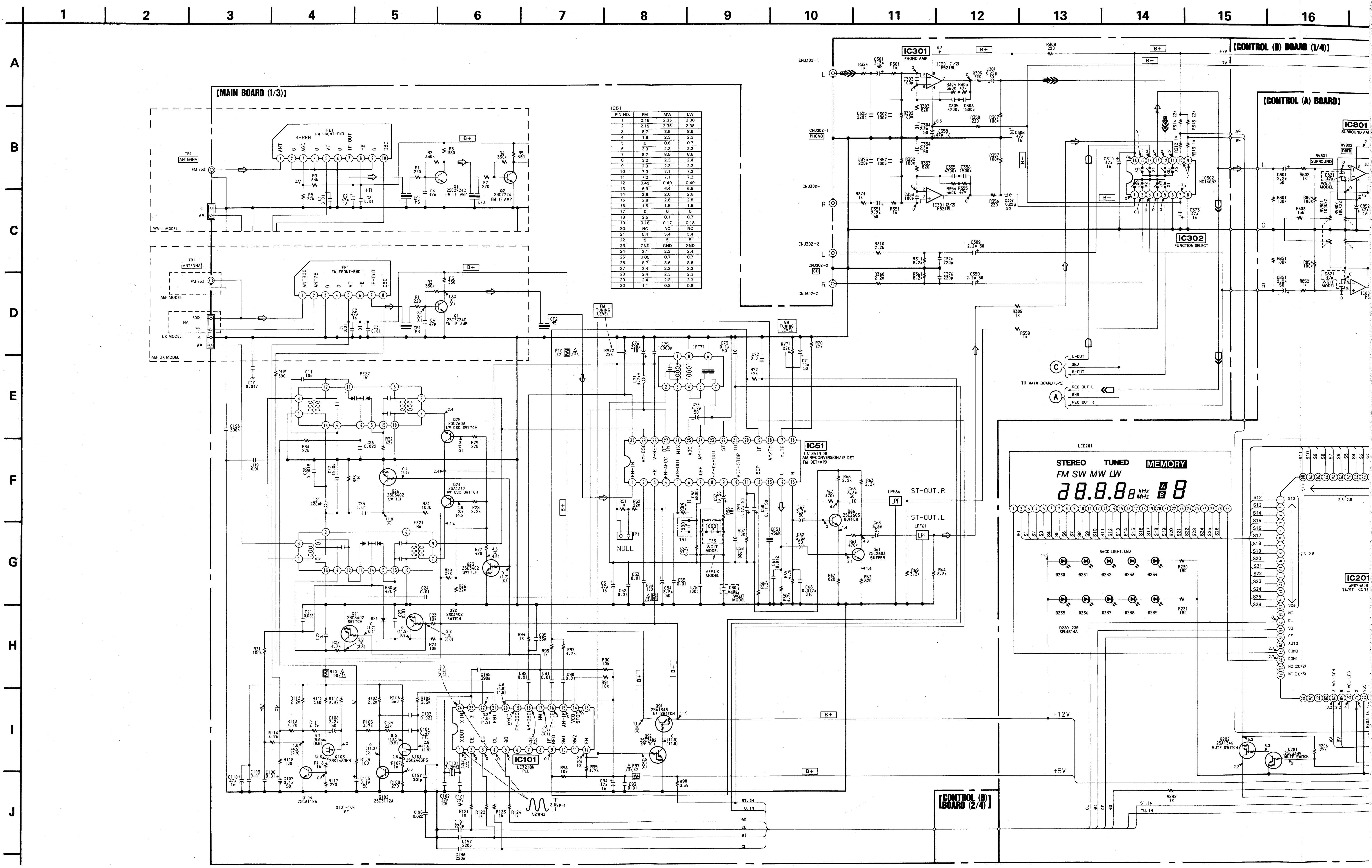
I
J
[MAIN BOARD (1/3)]
[CONTROL (B) BOARD (1/4)]
[CONTROL (A) BOARD]
[CONTROL (B) BOARD (2/4)]
TB1 ANTENNA
FM 75Ω
AM
WG.IT MODEL
AEP MODEL
UK MODEL
AEP.UK MODEL
FE1 FM FRONT-END
Q1 2SC2724C FM IF AMP
Q2 2SC2724 FM IF AMP
CF1 MS
CF2 MS
FE22 LW
FE21 MW
Q25 2SC2603 LW OSC SWITCH
Q26 2SC3402 SWITCH
Q24 2SA1317 MW OSC SWITCH
Q23 2SC3402 SWITCH
Q21 2SC3402 SWITCH
Q22 2SC3402 SWITCH
Q103 2SK246OR3
Q101 2SK246OR3
Q104 2SC5112A
Q102 2SC5112A
Q101-104 LPF
IC101 LC7218N PLL
XT101 7.2MHz
7.2MHz
2.0Vp-p
Q91 2SA1346A B+ SWITCH
Q92 2SC3402 SWITCH
FM TUNING LEVEL
AM TUNING LEVEL
IFT71
IC51 LA1851N(S) AM RF/CONVERSION/IF DET FM DET/MPX
Q66 2SC2603 BUFFER
Q61 2SC2603 BUFFER
LPF66
LPF61
ST-OUT.R
ST-OUT.L
TP1 NULL
T51
T23 WG.IT MODEL
AEP.UK MODEL
B+
IC301 PHONO AMP
IC301 (1/2) M5218L
IC301 (2/2) M5218L
CNJ302-1 PHONO
CNJ302-2 CD
IC302 MC14052
IC302 FUNCTION SELECT
TO MAIN BOARD (3/3)
L-OUT
GND
R-OUT
REC OUT L
REC OUT R
IC801 SURROUND AMP
RV801 SURROUND
RV802 DBFB
WG.IT MODEL
LCD201
STEREO TUNED MEMORY
FM SW MW LW
kHz MHz
BACK LIGHT, LED
D230-239 SEL4814A
IC201
Q282 2SA1346 MUTE SWITCH
Q281 2SC3399 MUTE SWITCH
+12V
+5V
ST.IN
TU.IN
BO
CE
DI
CL

IC51

PIN NO.	FM	MW	LW
1	2.15	2.35	2.38
2	2.15	2.35	2.38
3	8.7	8.5	8.6
4	1.6	2.3	2.3
5	0	0.6	0.7
6	2.3	2.3	2.3
7	8.7	8.5	8.6
8	3.2	2.3	2.4
9	2.3	2.3	2.3
10	7.3	7.1	7.2
11	7.2	7.1	7.2
12	0.49	0.49	0.49
13	6.9	6.4	6.5
14	2.6	2.6	2.6
15	2.8	2.8	2.8
16	1.5	1.5	1.5
17	0	0	0
18	2.5	0.1	0.7
19	0.16	0.17	0.18
20	NC	NC	NC
21	5.4	5.4	5.4
22	5	5	5
23	GND	GND	GND
24	2.1	2.3	2.4
25	0.05	0.7	0.7
26	8.7	8.6	8.6
27	2.4	2.3	2.3
28	2.4	2.3	2.3
29	2.4	2.3	2.3
30	1.1	0.8	0.8

4-4. TUNER, SYSTEM CONTROL, AMPLIFIER, POWER SUPPLY SECTION SCHEMATIC DIAGRAM • See page 8 for Note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16
A
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D
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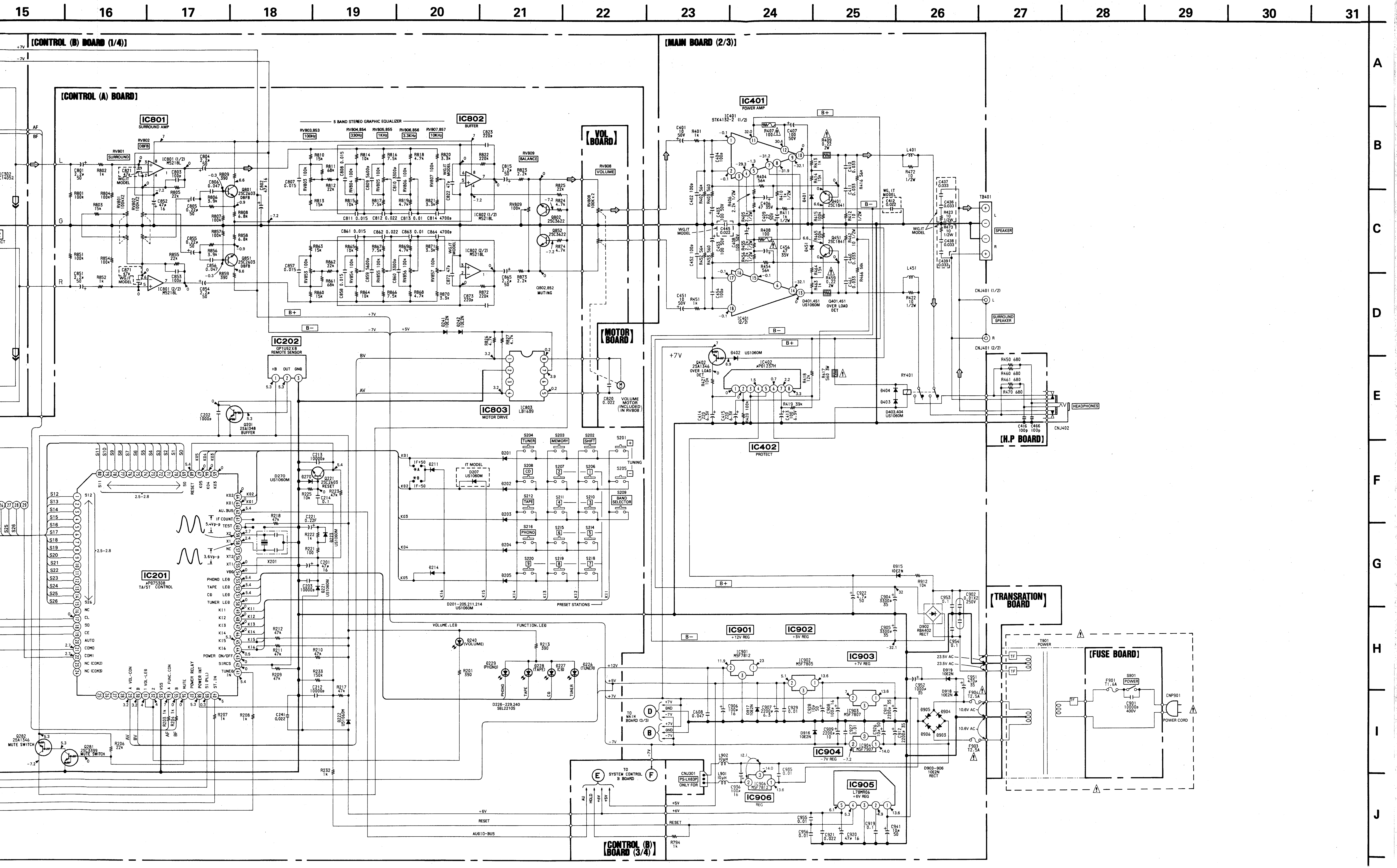
F
G
H
I
J
[MAIN BOARD (1/3)]
[CONTROL (B) BOARD (1/4)]
[CONTROL (A) BOARD]
[CONTROL (B) BOARD (2/4)]
TB1 ANTENNA
FM 75Ω
WG.IT MODEL
AEP MODEL
UK MODEL
AEP.UK MODEL
FE1 FM FRONT-END
4-REN
Q1 2SC2724C FM IF AMP
Q2 2SC2724 FM IF AMP
FE22 LW
FE21 MW
Q25 2SC2603 LW OSC SWITCH
Q24 2SA1317 MW OSC SWITCH
Q26 2SC3402 SWITCH
Q23 2SC3402 SWITCH
Q21 2SC3402 SWITCH
Q22 2SC3402 SWITCH
Q103 2SK246OR3
Q101 2SK246OR3
Q104 2SC3112A
Q102 2SC3112A
Q101-104 LPF
IC101 LC7218N PLL
XT101 7.2MHz
7.2MHz
2.0Vp-p
Q91 2SA1346A B+ SWITCH
Q92 2SC3402 SWITCH
FM TUNING LEVEL
AM TUNING LEVEL
IFT71
IC51 LA1851N(S) AM RF/CONVERSION/IF DET FM DET/MPX
Q66 2SC2603 BUFFER
Q61 2SC2603 BUFFER
LPF66
LPF61
ST-OUT.R
ST-OUT.L
NULL
TP1
T51
T23
WG.IT MODEL
AEP.UK MODEL
IC301 PHONO AMP
IC301 (1/2) M5218L
IC301 (2/2) M5218L
CNJ302-1
CNJ302-2
PHONO
CD
IC302 FUNCTION SELECT
IC302 MC14052
L
R
TO MAIN BOARD (3/3)
L-OUT
GND
R-OUT
REC OUT L
REC OUT R
IC801 SURROUND AMP
RV801 SURROUND
RV802 DBFB
LCD201
STEREO TUNED MEMORY
FM SW MW LW
BACK LIGHT, LED
D230-239 SEL4814A
IC201
Q282 2SA1346 MUTE SWITCH
Q281 2SC3399 MUTE SWITCH
+12V
+5V
B+
B-
ST.IN
TU.IN
BO
CE
DI
CL

IC51

PIN NO.	FM	MW	LW
1	2.15	2.35	2.38
2	2.15	2.35	2.38
3	8.7	8.5	8.6
4	1.6	2.3	2.3
5	0	0.6	0.7
6	2.3	2.3	2.3
7	8.7	8.5	8.6
8	3.2	2.3	2.4
9	2.3	2.3	2.3
10	7.3	7.1	7.2
11	7.2	7.1	7.2
12	0.49	0.49	0.49
13	6.9	6.4	6.5
14	2.6	2.6	2.6
15	2.8	2.8	2.8
16	1.5	1.5	1.5
17	0	0	0
18	2.5	0.1	0.7
19	0.16	0.17	0.18
20	NC	NC	NC
21	5.4	5.4	5.4
22	5	5	5
23	GND	GND	GND
24	2.1	2.3	2.4
25	0.05	0.7	0.7
26	8.7	8.6	8.6
27	2.4	2.3	2.3
28	2.4	2.3	2.3
29	2.4	2.3	2.3
30	1.1	0.8	0.8



[CONTROL (B) BOARD (1/4)]
[CONTROL (A) BOARD]
[MAIN BOARD (2/3)]
IC801
SURROUND AMP
IC802
BUFFER
5 BAND STEREO GRAPHIC EQUALIZER
100Hz
330Hz
1KHz
3.3KHz
10KHz
BALANCE
VOLUME
[VOL BOARD]
[MOTOR BOARD]
IC803
MOTOR DRIVE
IC202
GP1U52XB
REMOTE SENSOR
IC201
TA/ST CONTROL
IC401
POWER AMP
STK4152-2
IC402
PROTECT
SPEAKER
SURROUND SPEAKER
HEADPHONES
[H.P BOARD]
[TRANSRATION BOARD]
[FUSE BOARD]
T901
POWER
POWER CORD
IC901
+12V REG
IC902
+5V REG
IC903
+7V REG
IC904
-7V REG
IC905
+6V REG
IC906
REG
[CONTROL (B) BOARD (3/4)]
TO SYSTEM CONTROL B BOARD
TO MAIN BOARD (3/3)
MUTE SWITCH
MUTING
PRESET STATIONS
TUNER
MEMORY
SHIFT
TUNING
BAND SELECTOR
CD
TAPE
PHONO
VOLUME MOTOR (INCLUDED IN RV808)
OVER LOAD DET

SECTION 5
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:

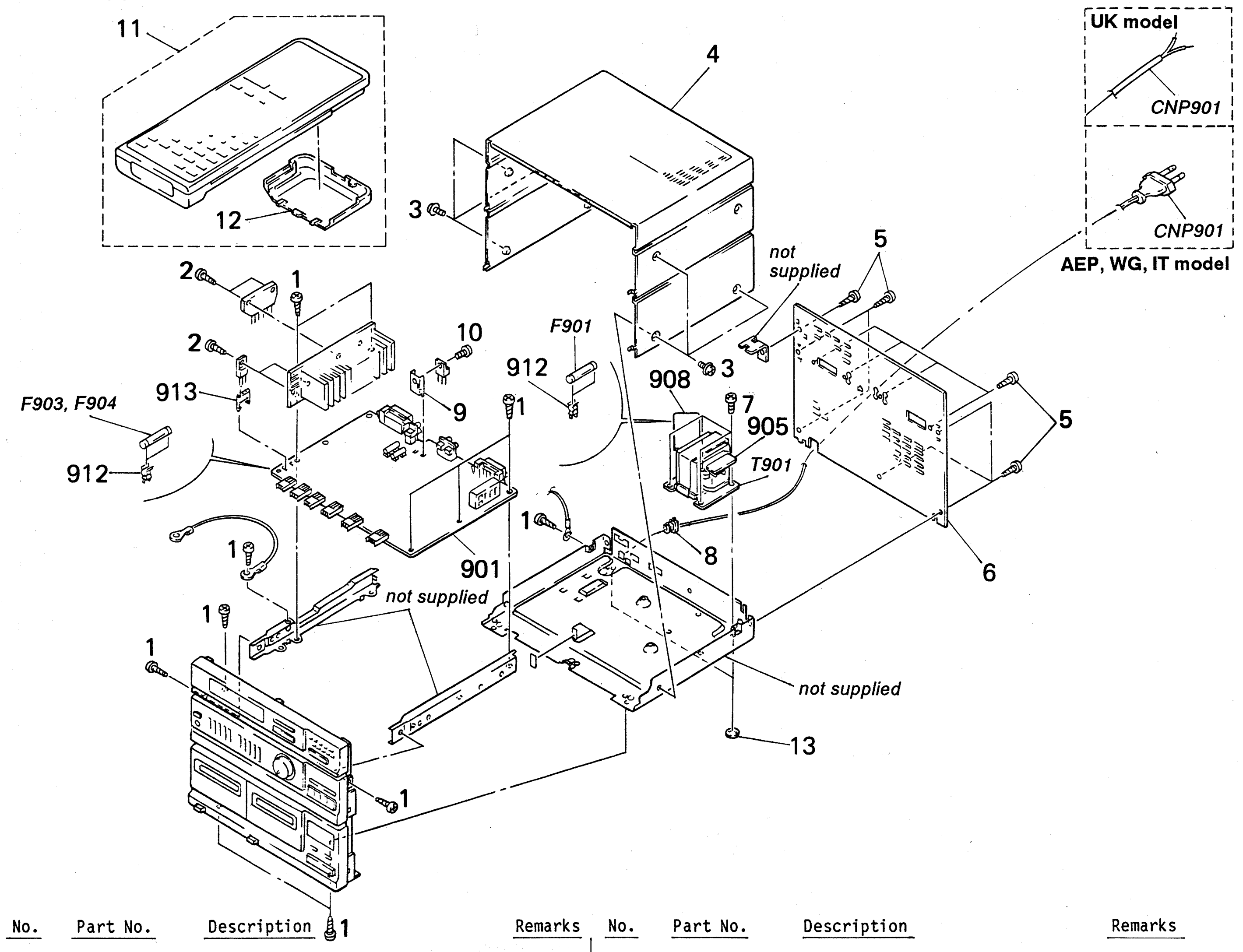
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- Abbreviation

  WG: West Germany
  IT: Italian

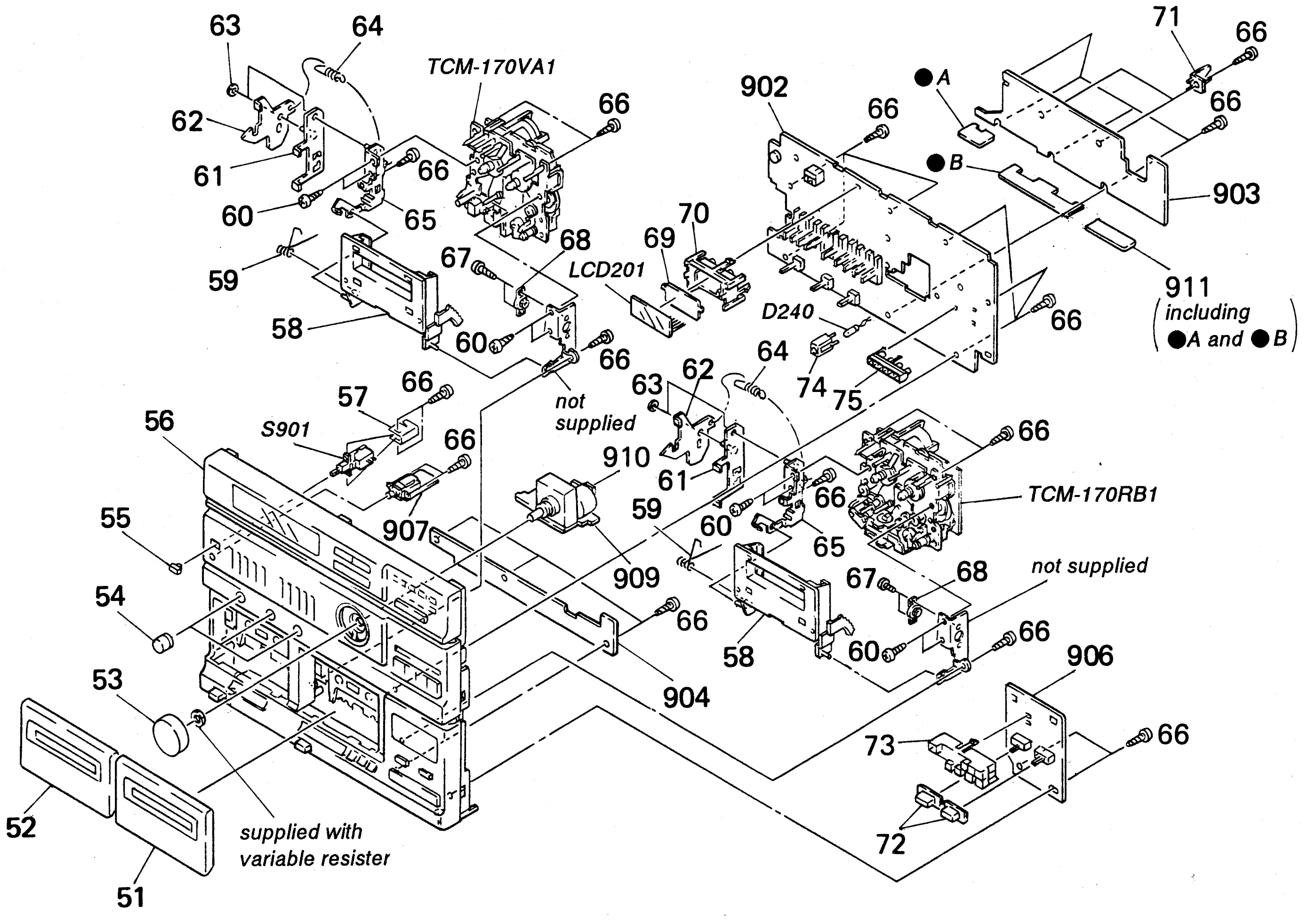
(1) CHASSIS SECTION


11
12
4
3
not supplied
5
2
1
2
10
F901
912
908
3
7
905
T901
913
9
F903, F904
912
1
1
8
901
1
not supplied
1
1
6
5
not supplied
13
1
1
UK model
CNP901
CNP901
AEP, WG, IT model

No.	Part No.	Description	Remarks
1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
2	4-928-635-11	SCREW, +BV (2.6X16) TAPPING	
3	3-704-366-01	(GRAY)....SCREW (CASE) (M3X8)	
	3-704-366-11	(WHITE)...SCREW (CASE) (M3X8)	
4	4-935-368-31	(GRAY)....CASE	
	4-935-368-61	(WHITE)...CASE	
5	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
6	4-935-367-01	(UK).....PANEL, BACK	
	*4-935-367-22	(WG).....PANEL, BACK	
	4-935-367-32	(IT).....PANEL, BACK	
	4-935-367-81	(AEP)....PANEL, BACK	
7	7-682-547-04	SCREW +BVTT 3X6 (S)	
8	*3-703-244-00	BUSHING (2104), CORD	
9	*3-309-144-21	HEAT SINK	
10	7-682-548-04	SCREW +BVTT 3X8 (S)	
11	1-465-414-11	(GRAY)....REMOTE COMMANDER (RM-S330)	12
	1-465-456-11	(WHITE)...REMOTE COMMANDER (RM-S330W)	12

No.	Part No.	Description	Remarks
12	3-707-584-01	(WHITE)...COVER, BATTERY	
	3-707-584-11	(GRAY)....COVER, BATTERY	
13	4-933-601-01	FOOT	
901	*A-4334-332-A	(UK)......MOUNTED PCB, MAIN	
	*A-4334-333-A	(WG,IT)...MOUNTED PCB, MAIN	
	*A-4334-375-A	(AEP).....MOUNTED PCB, MAIN	
905	*1-633-908-11	PC BOARD, CONNECTOR	
908	*1-633-913-11	PC BOARD, FUSE	
912	1-533-213-31	HOLDER, FUSE	
913	*1-562-327-00	SOCKET, CONNECTOR 3P	
⚠CNP901	.1-575-651-11	(AEP,WG,IT)...CORD, POWER	
⚠CNP901	.1-575-652-11	(UK)..........CORD, POWER	
F901	⚠.1-532-259-00	FUSE, TIME-LAG T1.6A	
F903	⚠.1-532-286-00	FUSE, TIME-LAG T2.5A	
F904	⚠.1-532-286-00	FUSE, TIME-LAG T2.5A	
T901	⚠.1-449-961-11	(AEP,WG,IT)...TRANSFORMER, POWER	
T901	⚠.1-449-962-11	(UK)..........TRANSFORMER, POWER	

(2) FRONT PANEL SECTION

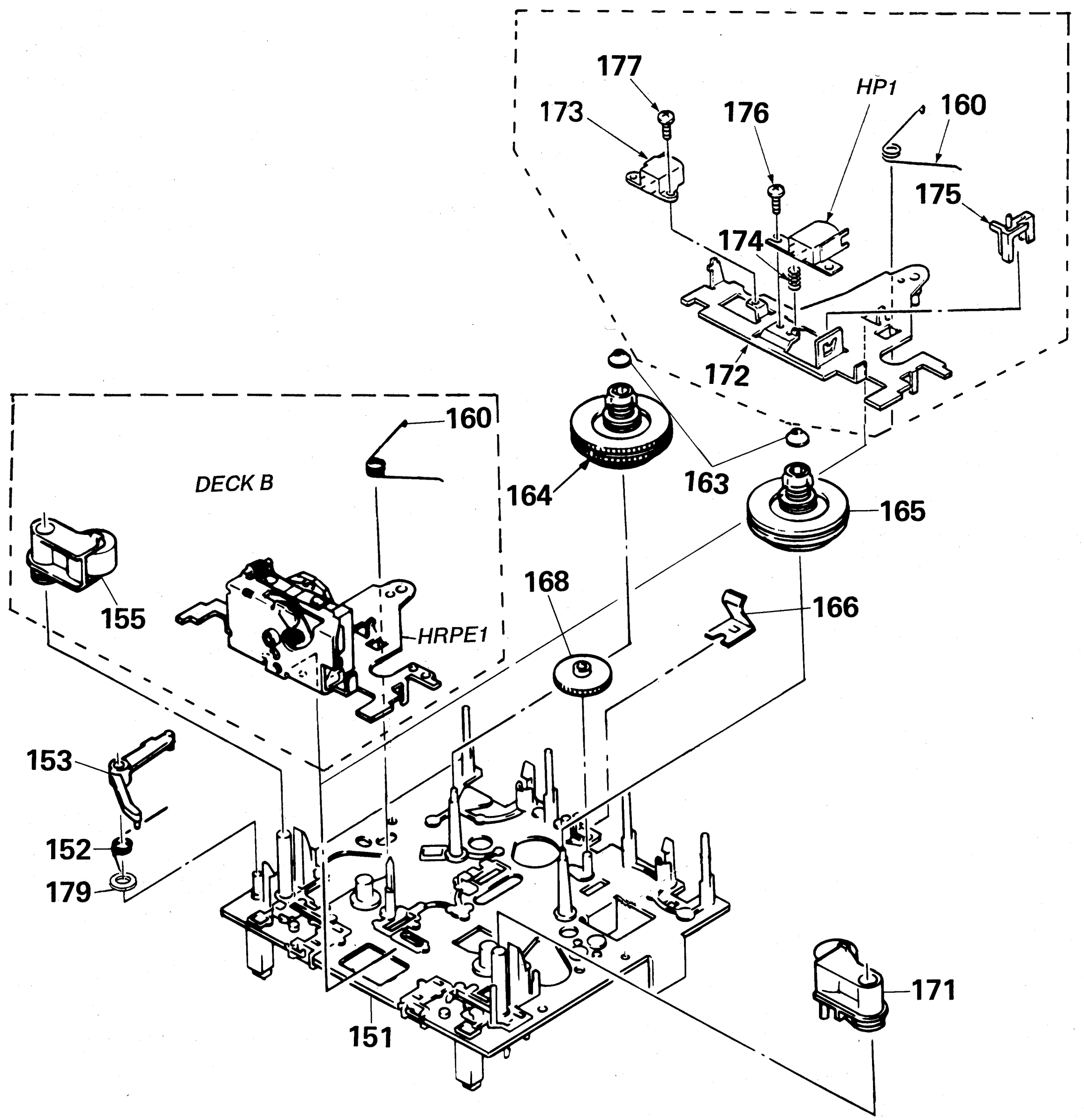

63
64
TCM-170VA1
66
902
66
●A
71
66
66
62
61
66
65
60
●B
903
59
67
68
69
70
LCD201
911
including
●A and ●B
D240
66
58
60
66
64
63
62
74
75
not supplied
57
66
56
S901
66
910
61
66
TCM-170RB1
55
907
59
60
65
54
909
66
67
68
not supplied
58
60
66
53
904
906
73
66
52
supplied with
variable resister
72
51

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

No.	Part No.	Description	Remarks
51	X-4929-956-1	(WHITE)...LID (B) ASSY, CASSETTE	
	X-4929-959-1	(GRAY)....LID (B) ASSY, CASSETTE	
52	X-4929-955-1	(WHITE)...LID (A) ASSY, CASSETTE	
	X-4929-958-1	(GRAY)....LID (A) ASSY, CASSETTE	
53	X-4929-947-A	(GRAY)....KNOB (VO) ASSY (VOLUME)	
	X-4929-954-1	(WHITE)...KNOB (VO) ASSY (VOLUME)	
54	4-935-394-01	(GRAY)....KNOB (VOL)	
	4-935-394-11	(WHITE)...KNOB (VOL)	
55	4-935-349-01	(GRAY)....BUTTON (POP)	
	4-935-349-11	(WHITE)...BUTTON (POP)	
56	X-4929-962-1	(WHITE)...PANEL ASSY, FRONT	
	X-4929-963-1	(GRAY)....PANEL ASSY, FRONT	
57	4-935-392-01	INSULATOR (PO)	
58	X-4929-960-1	(GRAY)....HOLDER ASSY, CASSETTE	
	X-4929-961-1	(WHITE)...HOLDER ASSY, CASSETTE	
59	4-924-506-01	SPRING (LOADING)	
60	7-621-770-87	SCREW +BVTT 2.6X5 (S)	
61	*4-935-341-01	LEVER (EJECT LEVER)	
62	*3-343-449-01	LEVER (LOCK LEVER)	
63	3-558-708-21	WASHER, STOPPER	
64	3-343-474-01	SPRING, TENSION	
65	*X-4929-953-1	BRACKET (EJECT) ASSY	
66	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
67	7-621-255-15	SCREW +PTT 2X3 (S)	

No.	Part No.	Description	Remarks
68	3-319-224-31	DAMPER, SMALL	
69	*4-935-303-11	ILLUMINATOR (LCD)	
70	*4-930-786-11	HOLDER (LL)	
71	*4-935-336-01	HOLDER, PCB	
72	4-935-344-01	(GRAY)....KNOB (DIR)	
	4-935-344-12	(WHITE)...KNOB (DIR)	
73	*4-935-357-01	HOLDER (TC), LED	
74	*4-930-781-11	HOLDER (VO), LED	
75	*4-935-369-01	HOLDER (FU), LED	
902	*A-4334-346-A	(AEP:GRAY,UK:GRAY)...MOUNTED PCB, CONTROL (A)	
	*A-4334-347-A	(WG)......MOUNTED PCB, CONTROL (A)	
	*A-4334-348-A	(IT)......MOUNTED PCB, CONTROL (A)	
	*A-4334-816-A	(AEP:WHITE,UK:WHITE)...MOUNTED PCB, CONTROL (A)	
903	*A-4334-356-A	MOUNTED PCB, CONTROL (B)	
904	*1-633-907-11	PC BOARD, CONTROL SW	
906	*1-633-911-11	PC BOARD, DISPLAY	
907	*1-633-912-11	PC BOARD, HP	
909	*1-633-916-11	PC BOARD, VOL	
910	*1-633-917-11	PC BOARD, MOTOR	
911	*1-633-918-11	PC BOARD, TRANSLATION	
D240	8-719-301-38	DIODE SEL2210S-C	
LCD201	1-808-810-11	DISPLAY PANEL, LIQUID CRYSTAL	
S901	⚠.1-572-267-61	SWITCH, PUSH (AC POWER)(1 KEY)(POWER)	

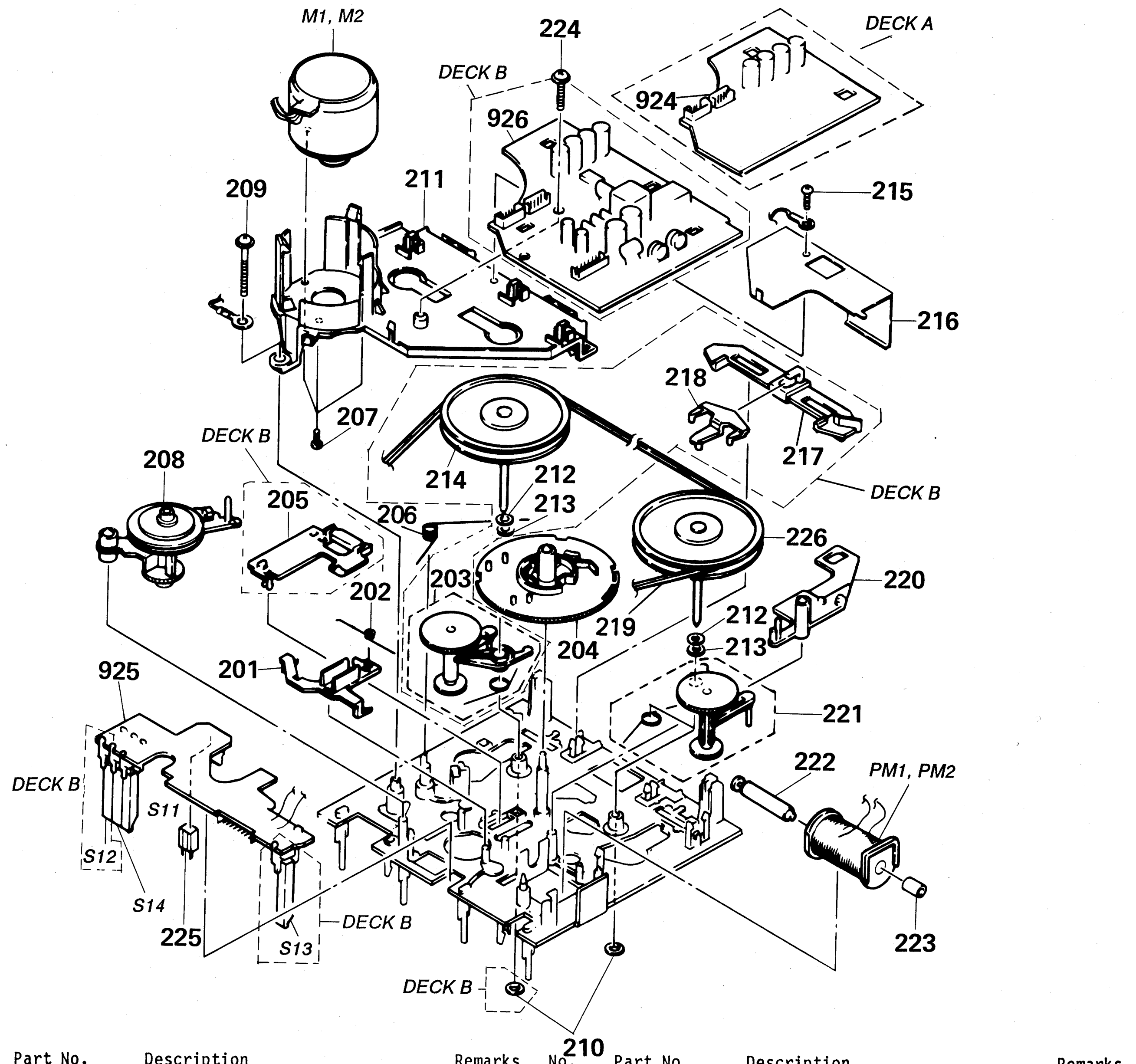
(3) TAPE TRANSPORT MECHANISM (1)
DECK A: TCM-170VA1
DECK B: TCM-170RB1


DECK A
177
173
176
HP1
160
175
174
172
160
DECK B
164
163
165
155
HRPE1
168
166
153
152
179
151
171

No.	Part No.	Description	Remarks
151	X-3343-428-1	CHASSIS ASSY, MECHANICAL	
152	3-343-477-01	SPRING, TORSION (EJECT SAFTY)	
153	3-343-476-01	LEVER (EJECT SAFETY LEVER)	
155	X-3343-456-1	(DECK B)...LEVER (PINCH R) ASSY	
160	3-343-401-01	SPRING, TORSION	
163	3-343-439-01	CAP (REEL TABLE)	
164	X-3343-415-1	TABEL (REV) ASSY, REEL	
165	X-3343-401-1	TABEL ASSY, REEL	
166	3-343-420-01	SPRING, LEAF	
168	3-343-411-01	GEAR (FF GEAR)	

No.	Part No.	Description	Remarks
171	X-3343-455-1	LEVER (PINCH F) ASSY	
172	*X-3343-422-1	(DECK A)...SLIDER (HEAD CHASSIS ONE) ASSY	
173	3-319-716-01	(DECK A)...GUIDE, TAPE	
174	3-343-484-01	(DECK A)...SPRING, COMPRESSION	
175	3-343-485-02	(DECK B)...HOLDER (HEAD REED)	
176	7-621-255-55	(DECK A)...SCREW, LOCK	
177	7-621-772-38	(DECK A)...SCREW +B 2X6	
179	3-343-487-01	WASHER	
HP1	1-543-536-11	HEAD, MAGNETIC (PLAY BACK)	
HRPE1	X-2108-123-C	CHASSIS ASSY, HEAD	

(4) TAPE TRANSPORT MECHANISM (2)


M1, M2
224
DECK B
DECK A
924
926
209
211
215
216
218
207
208
DECK B
214
212
213
217
DECK B
205
206
226
220
202
203
219
212
213
204
925
201
221
222
PM1, PM2
DECK B
S11
S12
S14
225
S13
DECK B
223
DECK B
210

No.	Part No.	Description	Remarks
201	3-343-453-01	SLIDER (BRAKE PLATE)	
202	3-343-429-01	(DECK B)...SPRING, TORSION	
	3-343-482-01	(DECK A)...SPRING, TORSION	
203	X-3343-454-1	(DECK B)...LEVER (TU-R) ASSY	
204	3-343-470-01	GEAR (CAM GEAR)	
205	3-343-461-01	(DECK B)...SLIDER	
206	3-343-430-01	SPRING, TORSION	
207	7-627-556-28	SCREW +P 2.6X3.5	
208	X-3343-414-1	LEVER (FR ARM) ASSY	
209	3-355-801-01	SCREW (BTP 2X18)	
210	3-343-473-01	WASHER, NYLON	
211	*X-3343-407-1	(DECK B)...BASE (THRUST RETAINER) ASSY	
	*X-3343-421-1	(DECK A)...BASE (THRUST RETAINER) ASSY	
212	4-605-835-11	WASHER (2.6), POLYSLIDER	
213	3-307-482-00	WASHER, LUMILER	
214	X-3343-416-7	(DECK B)...FLYWHEEL (REV) COMPLETE ASSY	
215	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
216	3-343-480-01	PLATE, SHIELD	
217	3-343-457-01	(DECK B)...SLIDER (REVERSE SLIDER)	
218	3-343-462-01	(DECK B)...LEVER	

No.	Part No.	Description	Remarks
219	3-313-816-00	(DECK B)...BELT (CAPSTAN BELT SQUARE)	
	3-343-488-01	(DECK A)...BELT	
220	3-343-493-01	LEVER (PM LEVER)	
221	X-3343-453-1	LEVER (TU-F) ASSY	
222	*3-343-425-01	ARBOR(MOVABLE IRON ARBOR),IRON	
223	*3-343-424-01	ARBOR (FIXED IRON ARBOR), IRON	
224	3-343-404-01	SCREW (PTPWH 2X12)	
225	3-343-419-01	HOLDER (S SENSER A)	
226	X-3343-429-1	FLYWHEEL COMPLETE ASSY	
924	*1-624-147-11	(DECK A)...PC BOARD, MD-A	
925	*1-624-148-11	PC BOARD, LEAF SW	
926	*1-624-146-11	(DECK B)...PC BOARD, MD-B	
M1	X-3343-447-1	(DECK A)...MOTOR ASSY	
M2	X-3343-447-1	(DECK B)...MOTOR ASSY	
PM1	1-454-456-11	(DECK A)...SOLENOID, PLUNGER	
PM2	1-454-456-11	(DECK B)...SOLENOID, PLUNGER	
S11	1-571-281-21	SWITCH, LEAF (HALF)	
S12	1-571-281-21	(DECK B)...SWITCH, LEAF (REC SIDE A)	
S13	1-571-281-21	(DECK B)...SWITCH, LEAF (REC SIDE B)	
S14	1-571-281-21	SWITCH, LEAF (CrO2)	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- Abbreviation
  WG: West Germany
  IT: Italian

Ref.No.	Part No.	Description
901	*A-4334-332-A	(UK)......MOUNTED PCB, MAIN
	*A-4334-333-A	(WG,IT)...MOUNTED PCB, MAIN
	*A-4334-375-A	(AEP).....MOUNTED PCB, MAIN
902	*A-4334-346-A	(AEP:GRAY,UK:GRAY)...MOUNTED PCB, CONTROL (A)
	*A-4334-347-A	(WG).......MOUNTED PCB, CONTROL (A)
	*A-4334-348-A	(IT).......MOUNTED PCB, CONTROL (A)
	*A-4334-816-A	(AEP:WHITE,UK:WHITE)...MOUNTED PCB, CONTROL (A)
903	*A-4334-356-A	MOUNTED PCB, CONTROL (B)
904	*1-633-907-11	PC BOARD, CONTROL SW
905	*1-633-908-11	PC BOARD, CONNECTOR
906	*1-633-911-11	PC BOARD, DISPLAY
907	*1-633-912-11	PC BOARD, HP
908	*1-633-913-11	PC BOARD, FUSE
909	*1-633-916-11	PC BOARD, VOL
910	*1-633-917-11	PC BOARD, MOTOR
911	*1-633-918-11	PC BOARD, TRANSLATION
912	1-533-213-31	HOLDER, FUSE
913	*1-562-327-00	SOCKET, CONNECTOR 3P
924	*1-624-147-11	(DECK A)...PC BOARD, MD-A
925	*1-624-148-11	PC BOARD, LEAF SW
926	*1-624-146-11	(DECK B)...PC BOARD, MD-B
C1	1-161-379-00	CERAMIC 0.01MF 30% 16V
C2	1-126-022-11	ELECT 47MF 20% 16V
C3	1-161-379-00	CERAMIC 0.01MF 30% 16V
C4	1-162-215-31	CERAMIC 47PF 5% 50V
C10	1-101-006-00	CERAMIC 0.047MF 50V
C11	1-162-199-31	CERAMIC 10PF 5% 50V
C21	1-101-005-00	CERAMIC 0.022MF 50V
C22	1-164-159-11	CERAMIC 0.1MF 50V
C23	1-161-379-00	CERAMIC 0.01MF 30% 16V
C24	1-161-379-00	CERAMIC 0.01MF 30% 16V
C25	1-161-379-00	CERAMIC 0.01MF 30% 16V
C26	1-101-005-00	CERAMIC 0.022MF 50V
C27	1-161-374-11	CERAMIC 0.0015MF 30% 16V
C28	1-102-120-00	CERAMIC 0.0018MF 10% 50V
C41	1-162-289-31	CERAMIC 390PF 10% 50V
C42	1-136-157-00	FILM 0.022MF 5% 50V
C43	1-124-282-00	ELECT 22MF 20% 25V
C44	1-162-288-31	(DECK B)...CERAMIC 330PF 10% 50V
C45	1-136-273-91	(DECK B)...FILM 75PF 5% 630V
C47	1-162-217-31	(DECK B)...CERAMIC 56PF 5% 50V
C48	1-162-217-31	(DECK B)...CERAMIC 56PF 5% 50V
C50	1-124-463-00	ELECT 0.1MF 20% 50V
C51	1-126-022-11	ELECT 47MF 20% 16V
C52	1-161-379-00	CERAMIC 0.01MF 30% 16V
C53	1-161-379-00	CERAMIC 0.01MF 30% 16V
C54	1-126-162-11	ELECT 3.3MF 20% 50V
C55	1-161-379-00	CERAMIC 0.01MF 30% 16V
C56	1-161-329-00	CERAMIC 0.0068MF 30% 16V
C57	1-126-301-11	ELECT 1MF 20% 50V
C58	1-126-301-11	ELECT 1MF 20% 50V
C59	1-126-300-11	ELECT 0.47MF 20% 50V
C61	1-136-154-00	(MAIN BOARD)...FILM 0.012MF 5% 50V
C61	1-162-289-31	(DECK A,B)...CERAMIC 390PF 10% 50V
C62	1-126-162-11	(MAIN BOARD)..ELECT 3.3MF 20% 50V
C62	1-136-157-00	(DECK A,B)....FILM 0.022MF 5% 50V
C63	1-124-282-00	(DECK A,B).....ELECT 22MF 20% 25V
C63	1-126-162-11	(MAIN BOARD)...ELECT 3.3MF 20% 50V
C64	1-162-288-31	(DECK B)...CERAMIC 330PF 10% 50V
C65	1-136-273-91	(DECK B)...FILM 75PF 5% 630V
C66	1-136-154-00	FILM 0.012MF 5% 50V
C67	1-126-162-11	(MAIN BOARD)...ELECT 3.3MF 20% 50V
C67	1-162-217-31	(DECK B).....CERAMIC 56PF 5% 50V
C68	1-162-217-31	(DECK B).....CERAMIC 6PF 5% 50V
C68	1-126-162-11	(MAIN BOARD)...ELECT 3.3MF 20% 50V
C71	1-126-059-11	ELECT 10MF 20% 50V
C72	1-161-379-00	CERAMIC 0.01MF 30% 16V
C73	1-124-463-00	ELECT 0.1MF 20% 50V
C74	1-124-045-00	ELECT 4.7MF 20% 50V
C75	1-161-379-00	CERAMIC 0.01MF 30% 16V
C76	1-126-101-11	ELECT 220MF 20% 10V
C78	1-162-282-31	CERAMIC 100PF 10% 50V
C80	1-162-292-31	(WG,IT)...CERAMIC 680PF 10% 50V
C81	1-126-101-11	ELECT 100MF 20% 16V
C82	1-126-101-11	ELECT 100MF 20% 16V
C83	1-124-791-11	(DECK B)...ELECT 1MF 20% 50V
C84	1-124-925-11	(DECK B)...ELECT 2.2MF 20% 50V
C85	1-130-477-00	(DECK B)...MYLAR 0.0033MF 5% 50V
C86	1-130-475-00	(DECK B)...MYLAR 0.0022MF 5% 50V
C87	1-130-475-00	(DECK B)...MYLAR 0.0022MF 5% 50V
C88	1-136-562-11	(DECK B)...FILM 0.0082MF 5% 630V
C89	1-161-494-00	(DECK B)...CERAMIC 0.022MF 25V
C90	1-161-379-00	CERAMIC 0.01MF 30% 16V
C91	1-161-379-00	CERAMIC 0.01MF 30% 16V
C92	1-161-379-00	CERAMIC 0.01MF 30% 16V
C93	1-161-379-00	CERAMIC 0.01MF 30% 16V
C94	1-126-022-11	ELECT 47MF 20% 16V

Ref.No.	Part No.	Description			
C95	1-162-211-31	CERAMIC	33PF	5%	50V
C101	1-102-961-00	CERAMIC	27PF	5%	50V
C102	1-102-961-00	CERAMIC	27PF	5%	50V
C103	1-161-494-00	CERAMIC	0.022MF		25V
C104	1-136-173-00	FILM	0.47MF	5%	50V
C105	1-124-463-00	ELECT	0.1MF	20%	50V
C106	1-126-161-11	ELECT	2.2MF	20%	50V
C107	1-124-463-00	ELECT	0.1MF	20%	50V
C108	1-161-379-00	CERAMIC	0.01MF	30%	16V
C109	1-161-379-00	CERAMIC	0.01MF	30%	16V
C110	1-126-022-11	ELECT	47MF	20%	16V
C191	1-162-286-31	CERAMIC	220PF	10%	50V
C192	1-162-286-31	CERAMIC	220PF	10%	50V
C193	1-162-286-31	CERAMIC	220PF	10%	50V
C195	1-162-289-31	CERAMIC	390PF	10%	50V
C196	1-162-289-31	CERAMIC	390PF	10%	50V
C197	1-161-379-00	CERAMIC	0.01MF	30%	16V
C198	1-101-005-00	CERAMIC	0.022MF		50V
C199	1-161-379-00	CERAMIC	0.01MF	30%	16V
C201	1-126-022-11	ELECT	47MF	20%	16V
C202	1-162-294-31	CERAMIC	0.001MF	10%	50V
C203	1-161-379-00	CERAMIC	0.01MF	30%	16V
C212	1-161-379-00	CERAMIC	0.01MF	30%	16V
C213	1-161-379-00	CERAMIC	0.01MF	30%	16V
C214	1-136-165-00	FILM	0.1MF	5%	50V
C221	1-125-486-11	DOUBLE LAYERS	0.22F		5.5V
C230	1-101-006-00	CERAMIC	0.047MF		50V
C241	1-101-005-00	CERAMIC	0.022MF		50V
C301	1-126-161-11	ELECT	2.2MF	20%	50V
C302	1-162-282-31	CERAMIC	100PF	10%	50V
C303	1-162-282-31	CERAMIC	100PF	10%	50V
C304	1-126-161-11	ELECT	2.2MF	20%	50V
C305	1-161-377-00	CERAMIC	0.0047MF	20%	16V
C306	1-161-374-11	CERAMIC	0.0015MF	20%	16V
C307	1-124-464-11	ELECT	0.22MF	20%	50V
C308	1-126-022-11	ELECT	47MF	20%	16V
C309	1-126-161-11	ELECT	2.2MF	20%	50V
C310	1-126-022-11	ELECT	47MF	20%	16V
C325	1-162-286-31	CERAMIC	220PF	10%	50V
C326	1-162-286-31	CERAMIC	220PF	10%	50V
C330	1-161-494-00	(WG,IT)...CERAMIC	0.022MF		25V
C351	1-126-161-11	ELECT	2.2MF	20%	50V
C352	1-162-282-31	CERAMIC	100PF	10%	50V
C353	1-162-282-31	CERAMIC	100PF	10%	50V
C354	1-126-161-11	ELECT	2.2MF	20%	50V
C355	1-161-377-00	CERAMIC	0.0047MF	20%	16V
C356	1-161-374-11	CERAMIC	0.0015MF	20%	16V
C357	1-124-464-11	ELECT	0.22MF	20%	50V
C358	1-126-022-11	ELECT	47MF	20%	16V
C359	1-126-161-11	ELECT	2.2MF	20%	50V
C373	1-126-022-11	ELECT	47MF	20%	16V
C375	1-162-286-31	CERAMIC	220PF	10%	50V
C376	1-162-286-31	CERAMIC	220PF	10%	50V
C401	1-126-059-11	ELECT	10MF	20%	50V
C402	1-162-282-31	CERAMIC	100PF	10%	50V
C403	1-124-122-11	ELECT	100MF	20%	50V
C404	1-162-282-31	CERAMIC	100PF	10%	50V
C406	1-124-910-11	ELECT	47MF	20%	35V
C407	1-124-122-11	ELECT	100MF	20%	35V

Ref.No.	Part No.	Description			
C408	1-124-122-11	ELECT	100MF	20%	50V
C409	1-126-233-11	ELECT	22MF	20%	50V
C410	1-136-159-00	FILM	0.033MF	5%	50V
C411	1-136-159-00	FILM	0.033MF	5%	50V
C412	1-161-494-00	CERAMIC	0.022MF		25V
C413	1-124-443-00	ELECT	100MF	20%	6.3V
C414	1-124-587-11	ELECT	220MF	20%	6.3V
C415	1-126-587-11	ELECT	220MF	20%	6.3V
C416	1-162-282-31	CERAMIC	100PF	10%	50V
C417	1-124-122-11	(WG,IT)...ELECT	100MF	20%	50V
C435	1-161-494-00	(WG,IT)...CERAMIC	0.022MF		25V
C436	1-136-159-00	(WG,IT)...FILM	0.033MF	5%	50V
C437	1-136-159-00	(WG,IT)...FILM	0.033MF	5%	50V
C438	1-136-159-00	(WG,IT)...FILM	0.033MF	5%	50V
C439	1-136-159-00	(WG,IT)...FILM	0.033MF	5%	50V
C445	1-161-494-00	(WG,IT)...CERAMIC	0.022MF		25V
C451	1-126-059-11	ELECT	10MF	20%	50V
C452	1-162-282-31	CERAMIC	100PF	10%	50V
C453	1-124-122-11	ELECT	100MF	20%	50V
C454	1-162-282-31	CERAMIC	100PF	10%	50V
C456	1-124-910-11	ELECT	47MF	20%	35V
C460	1-136-159-00	FILM	0.033MF	5%	50V
C461	1-136-159-00	FILM	0.033MF	5%	50V
C466	1-162-282-31	CERAMIC	100PF	10%	50V
C501	1-136-158-00	FILM	0.027MF	5%	50V
C502	1-131-587-11	TANTALUM	0.68MF	10%	35V
C503	1-126-059-11	ELECT	10MF	20%	50V
C504	1-124-464-11	ELECT	0.22MF	20%	50V
C505	1-126-300-11	ELECT	0.47MF	20%	50V
C506	1-126-059-11	ELECT	10MF	20%	50V
C507	1-126-059-11	ELECT	10MF	20%	50V
C551	1-136-158-00	FILM	0.027MF	5%	50V
C552	1-131-587-11	TANTALUM	0.68MF	10%	35V
C553	1-126-059-11	ELECT	10MF	20%	50V
C554	1-124-464-11	ELECT	0.22MF	20%	50V
C555	1-126-300-11	ELECT	0.47MF	20%	50V
C556	1-126-059-11	ELECT	10MF	20%	50V
C557	1-126-059-11	ELECT	10MF	20%	50V
C601	1-126-059-11	ELECT	10MF	20%	50V
C602	1-126-059-11	ELECT	10MF	20%	50V
C603	1-126-161-11	ELECT	2.2MF	20%	50V
C604	1-124-994-11	ELECT	100MF	20%	10V
C605	1-124-994-11	ELECT	100MF	20%	10V
C606	1-126-049-11	ELECT	22MF	20%	25V
C607	1-126-024-11	ELECT	220MF	20%	16V
C608	1-101-006-00	CERAMIC	0.047MF		50V
C701	1-124-443-00	ELECT	100MF	20%	6.3V
C702	1-161-494-00	CERAMIC	0.022MF		25V
C703	1-126-161-11	ELECT	2.2MF	20%	50V
C704	1-126-161-11	ELECT	2.2MF	20%	50V
C740	1-161-379-00	CERAMIC	0.01MF	30%	16V
C801	1-124-257-00	ELECT	2.2MF	20%	50V
C802	1-126-022-11	ELECT	47MF	20%	16V
C803	1-162-282-31	CERAMIC	100PF	10%	50V
C804	1-124-257-00	ELECT	2.2MF	20%	50V
C805	1-124-464-11	ELECT	0.22MF	20%	50V
C806	1-136-161-00	FILM	0.047MF	5%	50V
C807	1-136-155-00	FILM	0.015MF	5%	50V
C808	1-136-155-00	FILM	0.015MF	5%	50V
C809	1-130-480-00	MYLAR	0.0056MF	5%	50V
C810	1-161-327-00	CERAMIC	0.0033MF	30%	16V

Ref.No.	Part No.	Description			
C811	1-136-155-00	FILM	0.015MF	5%	50V
C812	1-136-157-00	FILM	0.022MF	5%	50V
C813	1-136-153-00	FILM	0.01MF	5%	50V
C814	1-161-377-00	CERAMIC	0.0047MF	30%	16V
C815	1-124-257-00	ELECT	2.2MF	20%	50V
C820	1-161-494-00	CERAMIC	0.022MF		25V
C821	1-162-215-31	(WG,IT)...CERAMIC	47PF	5%	50V
C822	1-162-215-31	(WG,IT)...CERAMIC	47PF	5%	50V
C823	1-162-286-31	CERAMIC	220PF	10%	50V
C851	1-124-257-00	ELECT	2.2MF	20%	50V
C852	1-124-589-11	ELECT	47MF	20%	16V
C853	1-162-282-31	CERAMIC	100PF	10%	50V
C854	1-124-257-00	ELECT	2.2MF	20%	50V
C855	1-124-464-11	ELECT	0.22MF	20%	50V
C856	1-136-161-00	FILM	0.047MF	5%	50V
C857	1-136-155-00	FILM	0.015MF	5%	50V
C858	1-136-155-00	FILM	0.015MF	5%	50V
C859	1-130-480-00	MYLAR	0.0056MF	5%	50V
C860	1-161-327-00	CERAMIC	0.0033MF	30%	16V
C861	1-136-155-00	FILM	0.015MF	5%	50V
C862	1-136-157-00	FILM	0.022MF	5%	50V
C863	1-136-153-00	FILM	0.01MF	5%	50V
C864	1-161-377-00	CERAMIC	0.0047MF	30%	16V
C865	1-124-257-00	ELECT	2.2MF	20%	50V
C871	1-162-215-31	(WG,IT)...CERAMIC	47PF	5%	50V
C872	1-162-215-31	(WG,IT)...CERAMIC	47PF	5%	50V
C873	1-162-286-31	CERAMIC	220PF	10%	50V
C901	⚠.1-161-744-00	CERAMIC	0.01MF		400V
C902	1-102-394-11	CERAMIC	0.01MF		250V
C904	1-124-026-00	ELECT	3300MF	20%	35V
C905	1-124-026-00	ELECT	3300MF	20%	35V
C906	1-126-023-11	ELECT	100MF	20%	16V
C907	1-126-821-11	ELECT	2200MF	20%	6.3V
C908	1-126-023-11	ELECT	100MF	20%	16V
C909	1-126-831-11	ELECT	2200MF	20%	10V
C912	1-126-859-11	ELECT	2200MF	20%	35V
C913	1-126-859-11	ELECT	2200MF	20%	35V
C919	1-124-463-00	ELECT	0.1MF	20%	50V
C920	1-126-022-11	ELECT	47MF	20%	16V
C921	1-161-494-00	CERAMIC	0.022MF		25V
C922	1-124-045-00	ELECT	4.7MF	20%	50V
C926	1-126-059-11	ELECT	10MF	20%	50V
C927	1-136-153-00	FILM	0.01MF	5%	50V
C928	1-126-059-11	ELECT	10MF	20%	50V
C929	1-136-153-00	FILM	0.01MF	5%	50V
C935	1-136-153-00	FILM	0.01MF	5%	50V
C936	1-126-023-11	ELECT	100MF	20%	16V
C941	1-126-059-11	ELECT	10MF	20%	50V
C951	1-126-857-11	ELECT	470MF	20%	35V
C952	1-126-105-11	ELECT	1000MF	20%	35V
C953	1-136-165-00	FILM	0.1MF	5%	50V
C954	1-136-165-00	FILM	0.1MF	5%	50V
C955	1-161-379-00	CERAMIC	0.01MF	30%	16V
C956	1-161-379-00	CERAMIC	0.01MF	30%	16V
CF1	1-567-389-11	FILTER, CERAMIC			
CF2	1-567-389-11	FILTER, CERAMIC			
CF3	1-567-389-11	(WG,IT)...FILTER, CERAMIC			

Ref.No.	Part No.	Description
CF51	1-577-075-11	OSCILLATOR, CERAMIC 19KHz
CF701	1-577-358-21	VIBRATOR, CERAMIC 4MHz
CN904	*1-564-321-00	PIN, CONNECTOR 2P
CN905	*1-564-321-00	PIN, CONNECTOR 2P
CN906	*1-564-521-11	PLUG, CONNECTOR 6P
CNJ301	*1-566-210-11	PIN, CONNECTOR 3P (PS-LX63P)
CNJ302	1-563-562-11	JACK, PIN 4P (PHONO/CD)
CNJ401	1-569-130-11	JACK, PIN 2P (SURROUND SPEAKER)
CNJ402	1-569-404-11	JACK, LARGE TYPE (HEADPHONES)
CNJ710	1-569-400-11	PLUG, CONNECTOR 10P
CNJ711	1-569-401-11	PLUG, CONNECTOR 8P
CNJ712	1-569-400-11	PLUG, CONNECTOR 10P
CNJ713	1-569-400-11	PLUG, CONNECTOR 10P
CNJ714	1-569-400-11	PLUG, CONNECTOR 10P
CNJ715	1-569-402-11	PLUG, CONNECTOR 6P
CNP11	1-564-501-11	PIN, CONNECTOR 8P
CNP12	*1-564-337-00	(DECK A)...PIN, CONNECTOR 3P
CNP12	*1-564-337-61	(DECK B)...PIN, CONNECTOR 3P
CNP13	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P
CNP81	*1-564-705-11	(DECK A)..PIN, CONNECTOR(SMALL TYPE) 3P
CNP81	*1-564-709-11	(DECK B)..PIN, CONNECTOR(SMALL TYPE) 7P
CNP82	*1-564-339-00	(DECK A)...PIN, CONNECTOR 5P
CNP82	*1-564-339-61	(DECK B)...PIN, CONNECTOR 5P
CNP83	*1-564-340-61	(DECK B)...PIN, CONNECTOR 6P
CNP402	*1-564-520-11	PLUG, CONNECTOR 5P
CNP706	*1-564-342-61	PIN, CONNECTOR 8P
CNP707	*1-564-342-11	PIN, CONNECTOR 8P
CNP708	*1-560-060-00	PIN, CONNECTOR 2P
CNP709	*1-564-498-11	PIN, CONNECTOR 5P
CNP710	1-569-406-11	SOCKET, CONNECTOR 6P
CNP711	1-569-407-11	SOCKET, CONNECTOR 8P
CNP712	1-569-406-11	SOCKET, CONNECTOR 6P
CNP713	1-569-406-11	SOCKET, CONNECTOR 6P
CNP714	1-569-406-11	SOCKET, CONNECTOR 6P
CNP715	1-569-408-11	SOCKET, CONNECTOR 10P
⚠CNP901.	1-575-651-11	(AEP,WG,IT).....CORD, POWER
⚠CNP901.	1-575-652-11	(UK)............CORD, POWER
D11	8-719-107-94	DIODE 1SS202-1
D21	8-719-912-20	DIODE 1SS120
D81	8-719-107-94	(DECK B)...DIODE 1SS202-1
D201	8-719-912-20	DIODE 1SS120
D202	8-719-912-20	DIODE 1SS120
D203	8-719-912-20	DIODE 1SS120
D204	8-719-912-20	DIODE 1SS120
D205	8-719-912-20	DIODE 1SS120
D207	8-719-912-20	(IT)...DIODE 1SS120
D211	8-719-912-20	DIODE 1SS120
D214	8-719-912-20	DIODE 1SS120
D221	8-719-912-20	DIODE 1SS120
D222	8-719-912-20	DIODE 1SS120
D223	8-719-912-20	DIODE 1SS120
D226	8-719-301-38	DIODE SEL2210S-C
D227	8-719-301-38	DIODE SEL2210S-C
D228	8-719-301-38	DIODE SEL2210S-C
D229	8-719-301-38	DIODE SEL2210S-C

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Ref.No.	Part No.	Description
D230	8-719-312-73	DIODE SEL4B14A-D
D231	8-719-312-73	DIODE SEL4B14A-D
D232	8-719-312-73	DIODE SEL4B14A-D
D233	8-719-312-73	DIODE SEL4B14A-D
D234	8-719-312-73	DIODE SEL4B14A-D
D235	8-719-312-73	DIODE SEL4B14A-D
D236	8-719-312-73	DIODE SEL4B14A-D
D237	8-719-312-73	DIODE SEL4B14A-D
D238	8-719-312-73	DIODE SEL4B14A-D
D239	8-719-312-73	DIODE SEL4B14A-D
D240	8-719-301-38	DIODE SEL2210S-C
D241	8-719-200-02	DIODE 10E2N
D242	8-719-200-02	DIODE 10E2N
D270	8-719-912-20	DIODE 1SS120
D401	8-719-912-20	DIODE 1SS120
D402	8-719-912-20	DIODE 1SS120
D403	8-719-912-20	DIODE 1SS120
D404	8-719-912-20	DIODE 1SS120
D451	8-719-912-20	DIODE 1SS120
D601	8-719-933-50	DIODE HZS7C2L
D602	8-719-933-50	DIODE HZS7C2L
D603	8-719-933-50	DIODE HZS7C2L
D701	8-719-200-77	DIODE 10E2N
D702	8-719-200-77	DIODE 10E2N
D703	8-719-301-39	DIODE SEL2210S
D704	8-719-301-39	DIODE SEL2210S
D707	8-719-304-37	DIODE SEL4414E-C
D708	8-719-312-13	DIODE SEL4914A-CD
D709	8-719-312-13	DIODE SEL4914A-CD
D710	8-719-304-37	DIODE SEL4414E-C
D711	8-719-312-13	DIODE SEL4914A-CD
D712	8-719-301-39	DIODE SEL2210S
D713	8-719-912-20	DIODE 1SS120
D902	8-719-312-09	DIODE RBA-402
D903	8-719-200-77	DIODE 10E2N
D904	8-719-200-77	DIODE 10E2N
D905	8-719-200-77	DIODE 10E2N
D906	8-719-200-77	DIODE 10E2N
D915	8-719-200-77	DIODE 10E2N
D916	8-719-200-77	DIODE 10E2N
D917	8-719-200-77	DIODE 10E2N
D918	8-719-200-77	DIODE 10E2N
D919	8-719-200-77	DIODE 10E2N
F901	⚠1-532-259-00	FUSE, TIME-LAG T1.6A
F903	⚠1-532-286-00	FUSE, TIME-LAG T2.5A
F904	⚠1-532-286-00	FUSE, TIME-LAG T2.5A
FE1	1-465-283-11	(AEP,UK)...FRONT END (2 GANG)
FE1	1-463-857-21	(WG,IT)....FRONT END (FM)
FE21	1-236-462-11	ENCAPSULATED COMPONENT
FE22	1-236-463-11	ENCAPSULATED COMPONENT
HP1	1-543-536-11	HEAD, MAGNETIC (PLAY BACK)
HRPE1	X-2108-123-C	CHASSIS ASSY, HEAD
IC51	8-759-822-14	IC LA1851N-S
IC81	8-759-111-44	IC UPC4570C-1
IC101	8-759-820-91	IC LC7218
IC201	8-759-148-93	IC UPD75308GF-491-3B9
IC202	8-749-920-83	IC GP1U52XB
IC301	8-759-634-50	IC M5218AL

Ref.No.	Part No.	Description
IC302	8-759-208-08	IC TC4052BPHB
IC401	8-749-920-13	IC STK4132MK2
IC402	8-759-111-68	IC UPC1237HA
IC601	8-759-000-49	IC MC14066BCP
IC602	8-752-031-67	IC CXA1100P
IC603	8-752-033-61	IC CXA1198AP
IC604	8-759-208-08	IC TC4052BPHB
IC701	8-759-634-38	IC M50964-221SP
IC801	8-759-634-50	IC M5218AL
IC802	8-759-634-50	IC M5218AL
IC803	8-759-820-62	IC LB1639
IC901	8-759-604-33	IC M5F7812
IC902	8-759-604-29	IC M5F7805
IC903	8-759-604-86	IC M5F7807
IC904	8-759-604-90	IC M5F7907
IC905	8-759-820-13	IC L78MR06
IC906	8-759-604-33	IC M5F7812
IFT71	1-404-713-11	TRANSFORMER, IF
L21	1-410-525-11	INDUCTOR 220UH
L41	1-410-780-11	(DECK B)...INDUCTOR 27MMH
L61	1-410-780-11	(DECK B)...INDUCTOR 27MMH
L71	1-407-500-00	INDUCTOR 4.7MMH
L401	*1-420-872-00	COIL, AIR CORE
L451	*1-420-872-00	COIL, AIR CORE
L601	1-410-521-11	INDUCTOR 100UH
L602	1-410-521-11	INDUCTOR 100UH
L701	1-410-521-11	INDUCTOR 100UH
L901	1-408-117-00	INDUCTOR 10UH
L902	1-408-117-00	INDUCTOR 10UH
LCD201	1-808-810-11	DISPLAY PANEL, LIQUID CRYSTAL
LPF61	1-235-164-00	FILTER, LOW PASS
LPF66	1-235-164-00	FILTER, LOW PASS
M1	X-3343-447-1	(DECK A)...MOTOR ASSY
M2	X-3343-447-1	(DECK B)...MOTOR ASSY
PM1	1-454-456-11	(DECK A)...SOLENOID, PLUNGER
PM2	1-454-456-11	(DECK B)...SOLENOID, PLUNGER
Q1	8-729-620-19	TRANSISTOR 2SC2724-CD
Q2	8-729-620-19	TRANSISTOR 2SC2724-CD
Q11	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q12	8-719-939-23	PHOTO TRANSISTOR GP2S09-C
Q21	8-729-900-80	TRANSISTOR DTC114ES
Q22	8-729-900-80	TRANSISTOR DTC114ES
Q23	8-729-900-80	TRANSISTOR DTC114ES
Q24	8-729-821-04	TRANSISTOR 2SA1317-STU
Q25	8-729-620-05	TRANSISTOR 2SC2603-EF
Q26	8-729-900-80	TRANSISTOR DTC114ES
Q61	8-729-620-05	TRANSISTOR 2SC2603-EF
Q66	8-729-620-05	TRANSISTOR 2SC2603-EF
Q81	8-729-111-29	(DECK B)...TRANSISTOR 2SD1388
Q82	8-729-119-78	(DECK B)...TRANSISTOR 2SC2785-HFE
Q83	8-729-119-78	(DECK B)...TRANSISTOR 2SC2785-HFE
Q91	8-729-900-61	TRANSISTOR DTA114ES
Q92	8-729-900-80	TRANSISTOR DTC114ES
Q101	8-729-202-67	TRANSISTOR 2SK246GR3
Q102	8-729-201-84	TRANSISTOR 2SC3112B
Q103	8-729-202-67	TRANSISTOR 2SK246GR3
Q104	8-729-201-84	TRANSISTOR 2SC3112B

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Replace only with part number specified.

Ref.No.	Part No.	Description
Q201	8-729-900-61	TRANSISTOR DTA114ES
Q221	8-729-620-05	TRANSISTOR 2SC2603-EF
Q281	8-729-900-89	TRANSISTOR DTC144ES
Q282	8-729-900-63	TRANSISTOR DTA124ES
Q401	8-729-140-84	TRANSISTOR 2SA1841-PAFAEA
Q402	8-729-900-63	TRANSISTOR DTA124ES
Q451	8-729-140-84	TRANSISTOR 2SA1841-PAFAEA
Q501	8-729-900-89	TRANSISTOR DTC144ES
Q502	8-729-620-05	TRANSISTOR 2SC2603-EF
Q503	8-729-620-05	TRANSISTOR 2SC2603-EF
Q551	8-729-900-89	TRANSISTOR DTC144ES
Q552	8-729-620-05	TRANSISTOR 2SC2603-EF
Q553	8-729-620-05	TRANSISTOR 2SC2603-EF
Q601	8-729-620-05	TRANSISTOR 2SC2603-EF
Q602	8-729-900-61	TRANSISTOR DTA114ES
Q603	8-729-900-61	TRANSISTOR DTA114ES
Q701	8-729-116-57	TRANSISTOR 2SB1068-K
Q702	8-729-801-93	TRANSISTOR 2SD1387
Q703	8-729-900-61	TRANSISTOR DTA114ES
Q704	8-729-116-57	TRANSISTOR 2SB1068-K
Q705	8-729-801-93	TRANSISTOR 2SD1387
Q706	8-729-900-61	TRANSISTOR DTA114ES
Q718	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q719	8-729-900-61	TRANSISTOR DTA114ES
Q720	8-729-900-61	TRANSISTOR DTA114ES
Q721	8-729-900-61	TRANSISTOR DTA114ES
Q722	8-729-118-01	TRANSISTOR 2SB1116
Q723	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q724	8-729-900-61	TRANSISTOR DTA114ES
Q725	8-729-900-61	TRANSISTOR DTA114ES
Q728	8-729-900-61	TRANSISTOR DTA114ES
Q729	8-729-900-61	TRANSISTOR DTA114ES
Q730	8-729-900-61	TRANSISTOR DTA114ES
Q731	8-729-900-61	TRANSISTOR DTA114ES
Q732	8-729-900-61	TRANSISTOR DTA114ES
Q733	8-729-900-61	TRANSISTOR DTA114ES
Q734	8-729-900-65	TRANSISTOR DTA144ES
Q801	8-729-620-05	TRANSISTOR 2SC2603-EF
Q802	8-729-141-26	TRANSISTOR 2SC3622A-LK
Q851	8-729-620-05	TRANSISTOR 2SC2603-EF
Q852	8-729-141-26	TRANSISTOR 2SC3622A-LK
R1	1-249-409-11	CARBON 220 5% 1/4W
R2	1-247-891-00	CARBON 330K 5% 1/4W
R3	1-249-411-11	CARBON 330 5% 1/4W
R5	1-249-411-11	(WG,IT)...CARBON 330 5% 1/4W
R6	1-247-891-00	(WG,IT)...CARBON 330K 5% 1/4W
R7	1-249-409-11	(WG,IT)...CARBON 220 5% 1/4W
R8	1-249-433-11	(WG,IT)...CARBON 22K 5% 1/4W
R9	1-249-435-11	(WG,IT)...CARBON 33K 5% 1/4W
R10	⚠.1-249-401-11	CARBON 47 5% 1/4W F
R11	1-247-834-11	(DECK B)...CARBON 1.3K 5% 1/4W
R12	1-249-414-11	(DECK B)...CARBON 560 5% 1/4W
R13	1-247-818-11	(DECK B)...CARBON 300 5% 1/4W
R14	1-249-408-11	CARBON 180 5% 1/4W
R17	1-249-437-11	CARBON 47K 5% 1/4W
R18	1-249-437-11	CARBON 47K 5% 1/4W
R21	1-249-441-11	CARBON 100K 5% 1/4W
R22	1-249-425-11	CARBON 4.7K 5% 1/4W

Ref.No.	Part No.	Description
R23	1-249-429-11	CARBON 10K 5% 1/4W
R24	1-249-429-11	CARBON 10K 5% 1/4W
R25	1-249-434-11	CARBON 27K 5% 1/4W
R26	1-249-433-11	CARBON 22K 5% 1/4W
R27	1-249-413-11	CARBON 470 5% 1/4W
R28	1-249-421-11	CARBON 2.2K 5% 1/4W
R29	1-249-433-11	CARBON 22K 5% 1/4W
R30	1-249-437-11	CARBON 47K 5% 1/4W
R31	1-249-441-11	CARBON 100K 5% 1/4W
R32	1-249-437-11	CARBON 47K 5% 1/4W
R33	1-247-903-00	CARBON 1M 5% 1/4W
R34	1-249-433-11	CARBON 22K 5% 1/4W
R41	1-247-881-00	CARBON 120K 5% 1/4W
R42	1-249-405-11	CARBON 100 5% 1/4W
R43	1-247-882-11	CARBON 130K 5% 1/4W
R44	1-249-426-11	CARBON 5.6K 5% 1/4W
R45	1-249-430-11	(DECK B)...CARBON 12K 5% 1/4W
R51	1-249-417-11	CARBON 1K 5% 1/4W
R52	1-249-433-11	CARBON 22K 5% 1/4W
R53	⚠.1-247-700-11	CARBON 100 5% 1/4W F
R54	1-249-435-11	CARBON 33K 5% 1/4W
R55	1-249-428-11	CARBON 8.2K 5% 1/4W
R56	1-249-432-11	CARBON 18K 5% 1/4W
R57	1-249-429-11	CARBON 10K 5% 1/4W
R58	1-249-418-11	CARBON 1.2K 5% 1/4W
R60	1-249-425-11	CARBON 4.7K 5% 1/4W
R61	1-247-881-00	(DECK A,B).....CARBON 120K 5% 1/4W
R61	1-247-895-00	(MAIN BOARD)...CARBON 470K 5% 1/4W
R62	1-249-405-11	(DECK A,B).....CARBON 100 5% 1/4W
R62	1-249-416-11	(MAIN BOARD)...CARBON 820 5% 1/4W
R63	1-249-421-11	(MAIN BOARD)...CARBON 2.2K 5% 1/4W
R63	1-247-882-11	(DECK A,B).....CARBON 130K 5% 1/4W
R64	1-249-423-11	(MAIN BOARD)...CARBON 3.3K 5% 1/4W
R64	1-249-426-11	(DECK A,B).....CARBON 5.6K 5% 1/4W
R65	1-249-425-11	(MAIN BOARD)...CARBON 4.7K 5% 1/4W
R65	1-249-430-11	(DECK B).......CARBON 12K 5% 1/4W
R66	1-247-895-00	CARBON 470K 5% 1/4W
R67	1-249-416-11	CARBON 820 5% 1/4W
R68	1-249-421-11	CARBON 2.2K 5% 1/4W
R69	1-249-423-11	CARBON 3.3K 5% 1/4W
R70	1-249-437-11	CARBON 47K 5% 1/4W
R72	1-249-437-11	CARBON 47K 5% 1/4W
R81	1-249-409-11	CARBON 220 5% 1/4W
R82	1-249-409-11	CARBON 220 5% 1/4W
R83	1-249-429-11	(DECK B)...CARBON 10K 5% 1/4W
R84	⚠1-212-853-00	(DECK B)...FUSIBLE 6.8 5% 1/4W F
R85	1-249-434-11	(DECK B)...CARBON 27K 5% 1/4W
R86	1-249-434-11	(DECK B)...CARBON 27K 5% 1/4W
R90	1-249-429-11	CARBON 10K 5% 1/4W
R91	1-249-429-11	CARBON 10K 5% 1/4W
R92	1-249-425-11	CARBON 4.7K 5% 1/4W
R93	1-249-417-11	CARBON 1K 5% 1/4W
R94	1-249-417-11	CARBON 1K 5% 1/4W
R95	1-249-425-11	CARBON 4.7K 5% 1/4W
R96	1-249-429-11	CARBON 10K 5% 1/4W
R97	⚠.1-249-401-11	CARBON 47 5% 1/4W F
R98	1-249-423-11	CARBON 3.3K 5% 1/4W
R101	⚠.1-247-700-11	CARBON 100 5% 1/4W F

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Replace only with part number specified.

Ref.No.	Part No.	Description			
R102	1-249-423-11	CARBON	3.3K	5%	1/4W
R103	1-249-421-11	CARBON	2.2K	5%	1/4W
R104	1-249-433-11	CARBON	22K	5%	1/4W
R105	1-249-425-11	CARBON	4.7K	5%	1/4W
R106	1-249-414-11	CARBON	560	5%	1/4W
R107	1-249-417-11	CARBON	1K	5%	1/4W
R108	1-249-410-11	CARBON	270	5%	1/4W
R109	1-249-405-11	CARBON	100	5%	1/4W
R110	1-249-423-11	CARBON	3.3K	5%	1/4W
R111	1-249-425-11	CARBON	4.7K	5%	1/4W
R112	1-249-421-11	CARBON	2.2K	5%	1/4W
R113	1-249-425-11	CARBON	4.7K	5%	1/4W
R114	1-249-425-11	CARBON	4.7K	5%	1/4W
R115	1-249-414-11	CARBON	560	5%	1/4W
R116	1-249-417-11	CARBON	1K	5%	1/4W
R117	1-249-410-11	CARBON	270	5%	1/4W
R118	1-249-405-11	CARBON	100	5%	1/4W
R119	1-249-412-11	CARBON	390	5%	1/4W
R121	1-249-417-11	CARBON	1K	5%	1/4W
R122	1-249-417-11	CARBON	1K	5%	1/4W
R123	1-249-417-11	CARBON	1K	5%	1/4W
R124	1-249-417-11	CARBON	1K	5%	1/4W
R201	1-249-412-11	CARBON	390	5%	1/4W
R203	1-249-417-11	CARBON	1K	5%	1/4W
R204	1-249-417-11	CARBON	1K	5%	1/4W
R206	1-249-433-11	CARBON	22K	5%	1/4W
R207	1-249-417-11	CARBON	1K	5%	1/4W
R208	1-249-417-11	CARBON	1K	5%	1/4W
R209	1-249-437-11	CARBON	47K	5%	1/4W
R210	1-249-437-11	CARBON	47K	5%	1/4W
R211	1-249-437-11	CARBON	47K	5%	1/4W
R212	1-249-437-11	CARBON	47K	5%	1/4W
R213	1-249-412-11	CARBON	390	5%	1/4W
R217	1-249-437-11	CARBON	47K	5%	1/4W
R218	1-249-437-11	CARBON	47K	5%	1/4W
R221	1-249-405-11	CARBON	100	5%	1/4W
R222	1-249-417-11	CARBON	1K	5%	1/4W
R223	1-249-437-11	CARBON	47K	5%	1/4W
R225	1-249-429-11	CARBON	10K	5%	1/4W
R230	1-249-408-11	CARBON	180	5%	1/4W
R231	1-249-408-11	CARBON	180	5%	1/4W
R232	1-249-417-11	CARBON	1K	5%	1/4W
R233	1-247-883-00	CARBON	150K	5%	1/4W
R292	1-249-417-11	CARBON	1K	5%	1/4W
R301	1-249-417-11	CARBON	1K	5%	1/4W
R302	1-249-441-11	CARBON	100K	5%	1/4W
R303	1-249-416-11	CARBON	820	5%	1/4W
R304	1-247-897-11	CARBON	560K	5%	1/4W
R305	1-249-437-11	CARBON	47K	5%	1/4W
R306	1-249-409-11	CARBON	220	5%	1/4W
R307	1-249-441-11	CARBON	100K	5%	1/4W
R308	1-249-409-11	CARBON	220	5%	1/4W
R309	1-249-417-11	CARBON	1K	5%	1/4W
R310	1-249-421-11	CARBON	2.2K	5%	1/4W
R311	1-249-428-11	CARBON	8.2K	5%	1/4W
R312	1-249-417-11	CARBON	1K	5%	1/4W
R313	1-249-417-11	CARBON	1K	5%	1/4W
R314	1-249-433-11	CARBON	22K	5%	1/4W

Ref.No.	Part No.	Description				
R315	1-249-433-11	CARBON	22K	5%	1/4W	
R324	1-249-417-11	CARBON	1K	5%	1/4W	
R351	1-249-417-11	CARBON	1K	5%	1/4W	
R352	1-249-441-11	CARBON	100K	5%	1/4W	
R353	1-249-416-11	CARBON	820	5%	1/4W	
R354	1-247-897-11	CARBON	560K	5%	1/4W	
R355	1-249-437-11	CARBON	47K	5%	1/4W	
R356	1-249-409-11	CARBON	220	5%	1/4W	
R357	1-249-441-11	CARBON	100K	5%	1/4W	
R358	1-249-409-11	CARBON	220	5%	1/4W	
R359	1-249-417-11	CARBON	1K	5%	1/4W	
R360	1-249-421-11	CARBON	2.2K	5%	1/4W	
R361	1-249-428-11	CARBON	8.2K	5%	1/4W	
R374	1-249-417-11	CARBON	1K	5%	1/4W	
R401	1-249-417-11	CARBON	1K	5%	1/4W	
R402	1-249-438-11	CARBON	56K	5%	1/4W	
R403	1-249-414-11	CARBON	560	5%	1/4W	
R404	1-249-438-11	CARBON	56K	5%	1/4W	
R405	1-247-756-11	CARBON	2.2K	5%	1/2W	
R406	1-247-756-11	CARBON	2.2K	5%	1/2W	
R407	⚠.1-212-881-11	FUSIBLE	100	5%	1/4W	F
R408	⚠.1-212-881-11	FUSIBLE	100	5%	1/4W	F
R409	⚠.1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R410	1-247-752-11	CARBON	1K	5%	1/2W	
R411	1-247-752-11	CARBON	1K	5%	1/2W	
R412	1-247-727-11	CARBON	10	5%	1/2W	
R413	1-249-417-11	CARBON	1K	5%	1/4W	
R414	1-249-431-11	CARBON	15K	5%	1/4W	
R415	1-249-441-11	CARBON	100K	5%	1/4W	
R416	1-249-438-11	CARBON	56K	5%	1/4W	
R417	⚠.1-216-479-11	METAL OXIDE	560	5%	3W	F
R418	1-249-430-11	CARBON	12K	5%	1/4W	
R419	1-249-436-11	CARBON	39K	5%	1/4W	
R420	1-249-441-11	CARBON	100K	5%	1/4W	
R421	1-249-429-11	CARBON	10K	5%	1/4W	
R422	1-247-727-11	CARBON	10	5%	1/2W	
R423	1-247-727-11	(WG,IT)...CARBON	10	5%	1/2W	
R450	1-249-415-11	CARBON	680	5%	1/4W	
R451	1-249-417-11	CARBON	1K	5%	1/4W	
R452	1-249-438-11	CARBON	56K	5%	1/4W	
R453	1-249-414-11	CARBON	560	5%	1/4W	
R454	1-249-438-11	CARBON	56K	5%	1/4W	
R455	1-247-756-11	CARBON	2.2K	5%	1/2W	
R456	1-247-756-11	CARBON	2.2K	5%	1/2W	
R459	⚠1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R460	1-249-415-11	CARBON	680	5%	1/4W	
R461	1-249-415-11	CARBON	680	5%	1/4W	
R462	1-247-727-11	CARBON	10	5%	1/2W	
R463	1-249-417-11	CARBON	1K	5%	1/4W	
R464	1-249-431-11	CARBON	15K	5%	1/4W	
R465	1-249-441-11	CARBON	100K	5%	1/4W	
R466	1-249-438-11	CARBON	56K	5%	1/4W	
R470	1-249-415-11	CARBON	680	5%	1/4W	
R472	1-247-727-11	CARBON	10	5%	1/2W	
R473	1-247-727-11	(WG,IT)...CARBON	10	5%	1/2W	
R501	1-249-420-11	CARBON	1.8K	5%	1/4W	
R502	1-249-422-11	CARBON	2.7K	5%	1/4W	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description			
R503	1-249-441-11	CARBON	100K	5%	1/4W
R506	1-249-437-11	CARBON	47K	5%	1/4W
R507	1-249-437-11	CARBON	47K	5%	1/4W
R508	1-249-421-11	CARBON	2.2K	5%	1/4W
R509	1-249-421-11	CARBON	2.2K	5%	1/4W
R510	1-249-430-11	CARBON	12K	5%	1/4W
R511	1-249-421-11	CARBON	2.2K	5%	1/4W
R512	1-249-421-11	CARBON	2.2K	5%	1/4W
R513	1-247-850-00	CARBON	6.2K	5%	1/4W
R514	1-249-426-11	CARBON	5.6K	5%	1/4W
R515	1-249-425-11	CARBON	4.7K	5%	1/4W
R516	1-249-425-11	CARBON	4.7K	5%	1/4W
R517	1-249-429-11	CARBON	10K	5%	1/4W
R551	1-249-420-11	CARBON	1.8K	5%	1/4W
R552	1-249-422-11	CARBON	2.7K	5%	1/4W
R553	1-249-441-11	CARBON	100K	5%	1/4W
R556	1-249-437-11	CARBON	47K	5%	1/4W
R557	1-249-437-11	CARBON	47K	5%	1/4W
R558	1-249-421-11	CARBON	2.2K	5%	1/4W
R559	1-249-421-11	CARBON	2.2K	5%	1/4W
R560	1-249-430-11	CARBON	12K	5%	1/4W
R561	1-249-421-11	CARBON	2.2K	5%	1/4W
R562	1-249-421-11	CARBON	2.2K	5%	1/4W
R563	1-247-850-00	CARBON	6.2K	5%	1/4W
R564	1-249-426-11	CARBON	5.6K	5%	1/4W
R565	1-249-425-11	CARBON	4.7K	5%	1/4W
R601	1-249-433-11	CARBON	22K	5%	1/4W
R602	1-249-429-11	CARBON	10K	5%	1/4W
R604	1-247-870-11	CARBON	43K	5%	1/4W
R605	1-249-437-11	CARBON	47K	5%	1/4W
R606	1-249-437-11	CARBON	47K	5%	1/4W
R607	1-249-429-11	CARBON	10K	5%	1/4W
R608	1-247-864-11	CARBON	24K	5%	1/4W
R611	1-249-437-11	CARBON	47K	5%	1/4W
R612	1-249-435-11	CARBON	33K	5%	1/4W
R613	1-247-868-11	CARBON	36K	5%	1/4W
R614	1-247-878-00	CARBON	91K	5%	1/4W
R615	1-247-881-00	CARBON	120K	5%	1/4W
R616	1-249-437-11	CARBON	47K	5%	1/4W
R617	1-247-862-11	CARBON	20K	5%	1/4W
R618	1-247-868-11	CARBON	36K	5%	1/4W
R619	1-249-436-11	CARBON	39K	5%	1/4W
R620	1-247-876-11	CARBON	75K	5%	1/4W
R621	1-247-868-11	CARBON	36K	5%	1/4W
R622	1-247-878-00	CARBON	91K	5%	1/4W
R623	1-247-876-11	CARBON	75K	5%	1/4W
R624	1-249-437-11	CARBON	47K	5%	1/4W
R625	1-247-868-11	CARBON	36K	5%	1/4W
R626	1-247-878-00	CARBON	91K	5%	1/4W
R627	1-247-881-00	CARBON	120K	5%	1/4W
R628	1-247-876-11	CARBON	75K	5%	1/4W
R629	1-247-868-11	CARBON	36K	5%	1/4W
R630	1-249-438-11	CARBON	56K	5%	1/4W
R631	1-249-433-11	CARBON	22K	5%	1/4W
R632	1-249-434-11	CARBON	27K	5%	1/4W
R633	1-249-440-11	CARBON	82K	5%	1/4W
R634	1-249-440-11	CARBON	82K	5%	1/4W

Ref.No.	Part No.	Description			
R637	1-249-425-11	CARBON	4.7K	5%	1/4W
R638	1-247-854-11	CARBON	9.1K	5%	1/4W
R642	1-249-429-11	CARBON	10K	5%	1/4W
R643	1-247-739-11	CARBON	100	5%	1/2W
R644	1-247-739-11	CARBON	100	5%	1/2W
R684	1-249-417-11	CARBON	1K	5%	1/4W
R690	1-247-887-00	CARBON	220K	5%	1/4W
R701	1-249-433-11	CARBON	22K	5%	1/4W
R702	1-249-437-11	CARBON	47K	5%	1/4W
R703	1-249-429-11	CARBON	10K	5%	1/4W
R704	1-249-417-11	CARBON	1K	5%	1/4W
R705	1-249-421-11	CARBON	2.2K	5%	1/4W
R706	1-249-429-11	CARBON	10K	5%	1/4W
R709	1-249-433-11	CARBON	22K	5%	1/4W
R710	1-249-429-11	CARBON	10K	5%	1/4W
R711	1-249-437-11	CARBON	47K	5%	1/4W
R712	1-249-429-11	CARBON	10K	5%	1/4W
R713	1-249-417-11	CARBON	1K	5%	1/4W
R714	1-249-429-11	CARBON	10K	5%	1/4W
R715	1-249-421-11	CARBON	2.2K	5%	1/4W
R718	1-249-429-11	CARBON	10K	5%	1/4W
R719	1-249-429-11	CARBON	10K	5%	1/4W
R720	1-249-425-11	CARBON	4.7K	5%	1/4W
R727	1-249-429-11	CARBON	10K	5%	1/4W
R728	1-249-429-11	CARBON	10K	5%	1/4W
R729	1-249-429-11	CARBON	10K	5%	1/4W
R730	1-249-425-11	CARBON	4.7K	5%	1/4W
R731	1-249-417-11	CARBON	1K	5%	1/4W
R734	1-247-895-00	CARBON	470K	5%	1/4W
R735	1-247-895-00	CARBON	470K	5%	1/4W
R736	1-249-429-11	CARBON	10K	5%	1/4W
R738	1-249-417-11	CARBON	1K	5%	1/4W
R739	1-249-421-11	CARBON	2.2K	5%	1/4W
R740	1-249-421-11	CARBON	2.2K	5%	1/4W
R741	1-249-421-11	CARBON	2.2K	5%	1/4W
R762	1-249-411-11	CARBON	330	5%	1/4W
R763	1-249-411-11	CARBON	330	5%	1/4W
R766	1-249-409-11	CARBON	220	5%	1/4W
R767	1-249-409-11	CARBON	220	5%	1/4W
R768	1-249-409-11	CARBON	220	5%	1/4W
R769	1-249-409-11	CARBON	220	5%	1/4W
R770	1-249-409-11	CARBON	220	5%	1/4W
R771	1-249-411-11	CARBON	330	5%	1/4W
R772	1-249-411-11	CARBON	330	5%	1/4W
R773	1-249-412-11	CARBON	390	5%	1/4W
R774	1-249-424-11	CARBON	3.9K	5%	1/4W
R775	1-249-420-11	CARBON	1.8K	5%	1/4W
R776	1-249-417-11	CARBON	1K	5%	1/4W
R777	1-247-832-11	CARBON	1.1K	5%	1/4W
R778	1-249-411-11	CARBON	330	5%	1/4W
R779	1-249-412-11	CARBON	390	5%	1/4W
R780	1-249-407-11	CARBON	150	5%	1/4W
R781	1-249-409-11	CARBON	220	5%	1/4W
R782	1-249-411-11	CARBON	330	5%	1/4W
R783	1-249-413-11	CARBON	470	5%	1/4W
R784	1-249-415-11	CARBON	680	5%	1/4W
R785	1-249-417-11	CARBON	1K	5%	1/4W

Ref.No.	Part No.	Description			
R786	1-249-426-11	CARBON	5.6K	5%	1/4W
R787	1-249-430-11	CARBON	12K	5%	1/4W
R788	1-249-425-11	CARBON	4.7K	5%	1/4W
R789	1-249-429-11	CARBON	10K	5%	1/4W
R790	1-249-437-11	CARBON	47K	5%	1/4W
R793	1-249-429-11	CARBON	10K	5%	1/4W
R794	1-249-417-11	CARBON	1K	5%	1/4W
R795	1-249-429-11	CARBON	10K	5%	1/4W
R797	1-247-903-00	CARBON	1M	5%	1/4W
R801	1-249-441-11	CARBON	100K	5%	1/4W
R802	1-249-417-11	CARBON	1K	5%	1/4W
R803	1-249-431-11	CARBON	15K	5%	1/4W
R804	1-249-441-11	CARBON	100K	5%	1/4W
R805	1-249-433-11	CARBON	22K	5%	1/4W
R806	1-249-424-11	CARBON	3.9K	5%	1/4W
R807	1-249-441-11	CARBON	100K	5%	1/4W
R808	1-249-427-11	CARBON	6.8K	5%	1/4W
R809	1-249-412-11	CARBON	390	5%	1/4W
R810	1-249-431-11	CARBON	15K	5%	1/4W
R811	1-249-439-11	CARBON	68K	5%	1/4W
R812	1-249-433-11	CARBON	22K	5%	1/4W
R813	1-249-431-11	CARBON	15K	5%	1/4W
R814	1-249-429-11	CARBON	10K	5%	1/4W
R815	1-249-429-11	CARBON	10K	5%	1/4W
R816	1-247-852-11	CARBON	7.5K	5%	1/4W
R817	1-247-852-11	CARBON	7.5K	5%	1/4W
R818	1-249-425-11	CARBON	4.7K	5%	1/4W
R819	1-249-425-11	CARBON	4.7K	5%	1/4W
R820	1-249-423-11	CARBON	3.3K	5%	1/4W
R821	1-249-423-11	CARBON	3.3K	5%	1/4W
R822	1-247-887-00	CARBON	220K	5%	1/4W
R823	1-249-421-11	CARBON	2.2K	5%	1/4W
R824	1-249-425-11	CARBON	4.7K	5%	1/4W
R825	1-249-433-11	CARBON	22K	5%	1/4W
R826	1-249-425-11	CARBON	4.7K	5%	1/4W
R827	1-249-425-11	CARBON	4.7K	5%	1/4W
R851	1-249-441-11	CARBON	100K	5%	1/4W
R852	1-249-417-11	CARBON	1K	5%	1/4W
R854	1-249-441-11	CARBON	100K	5%	1/4W
R855	1-249-433-11	CARBON	22K	5%	1/4W
R856	1-249-424-11	CARBON	3.9K	5%	1/4W
R857	1-249-441-11	CARBON	100K	5%	1/4W
R858	1-249-427-11	CARBON	6.8K	5%	1/4W
R859	1-249-412-11	CARBON	390	5%	1/4W
R860	1-249-431-11	CARBON	15K	5%	1/4W
R861	1-249-439-11	CARBON	68K	5%	1/4W
R862	1-249-433-11	CARBON	22K	5%	1/4W
R863	1-249-431-11	CARBON	15K	5%	1/4W
R864	1-249-429-11	CARBON	10K	5%	1/4W
R865	1-249-429-11	CARBON	10K	5%	1/4W
R866	1-247-852-11	CARBON	7.5K	5%	1/4W
R867	1-247-852-11	CARBON	7.5K	5%	1/4W
R868	1-249-425-11	CARBON	4.7K	5%	1/4W
R869	1-249-425-11	CARBON	4.7K	5%	1/4W
R870	1-249-423-11	CARBON	3.3K	5%	1/4W
R871	1-249-423-11	CARBON	3.3K	5%	1/4W
R872	1-247-887-00	CARBON	220K	5%	1/4W
R873	1-249-421-11	CARBON	2.2K	5%	1/4W
R874	1-249-425-11	CARBON	4.7K	5%	1/4W
R912	1-249-429-11	CARBON	10K	5%	1/4W
RT501	1-238-016-11	RES, ADJ, CARBON 10K			
RT551	1-238-016-11	RES, ADJ, CARBON 10K			
RV22	1-238-017-11	RES, ADJ, CARBON 22K			
RV41	1-228-989-00	RES, ADJ, CARBON 470			
RV42	1-230-499-11	(DECK B)...RES, ADJ, CARBON 100K			
RV61	1-228-989-00	RES, ADJ, CARBON 470			
RV62	1-230-499-11	(DECK B)...RES, ADJ, CARBON 100K			
RV71	1-238-017-11	RES, ADJ, CARBON 22K			
RV801	1-238-935-11	RES, VAR, CARBON 100K/100K(SUKRROUND)			
RV802	1-238-935-11	RES, VAR, CARBON 100K/100K(DBFB)			
RV803	1-238-934-11	(GRAY)....RES, VAR, SLIDE 100K (LEFT:100Hz)			
RV803	1-238-938-11	(WHITE)...RES, VAR, SLIDE 100K (LEFT:100Hz)			
RV804	1-238-934-11	(GRAY)....RES, VAR, SLIDE 100K (LEFT:330Hz)			
RV804	1-238-938-11	(WHITE)...RES, VAR, SLIDE 100K (LEFT:330Hz)			
RV805	1-238-934-11	(GRAY)....RES, VAR, SLIDE 100K (LEFT:1kHz)			
RV805	1-238-938-11	(WHITE)...RES, VAR, SLIDE 100K (LEFT:1kHz)			
RV806	1-238-934-11	(GRAY)....RES, VAR, SLIDE 100K (LEFT:3.3kHz)			
RV806	1-238-938-11	(WHITE)...RES, VAR, SLIDE 100K (LEFT:3.3kHz)			
RV807	1-238-934-11	(GRAY)....RES, VAR, SLIDE 100K (LEFT:10kHz)			
RV807	1-238-938-11	(WHITE)...RES, VAR, SLIDE 100K (LEFT:10kHz)			
RV808	1-238-931-11	RES, VAR, CARBON 100KX2 (VOLUME)			
RV809	1-238-936-11	RES, VAR, CARBON 100K (BALANCE)			
RV853	1-238-934-11	(GRAY)....RES, VAR, SLIDE 100K (RIGHT:100Hz)			
RV853	1-238-938-11	(WHITE)...RES, VAR, SLIDE 100K (RIGHT:100Hz)			
RV854	1-238-934-11	(GRAY)....RES, VAR, SLIDE 100K (RIGHT:330Hz)			
RV854	1-238-938-11	(WHITE)...RES, VAR, SLIDE 100K (RIGHT:330Hz)			
RV855	1-238-934-11	(GRAY)....RES, VAR, SLIDE 100K (RIGHT:1kHz)			
RV855	1-238-938-11	(WHITE)...RES, VAR, SLIDE 100K (RIGHT:1kHz)			
RV856	1-238-934-11	(GRAY)....RES, VAR, SLIDE 100K (RIGHT:3.3kHz)			
RV856	1-238-938-11	(WHITE)...RES, VAR, SLIDE 100K (RIGHT:3.3kHz)			
RV857	1-238-934-11	(GRAY)....RES, VAR, SLIDE 100K (RIGHT:10kHz)			
RV857	1-238-938-11	(WHITE)...RES, VAR, SLIDE 100K (RIGHT:10kHz)			
RY81	1-515-614-11	(DECK B)...RELAY			
RY401	1-515-533-11	RELAY			

Ref.No.	Part No.	Description
S11	1-571-281-21	SWITCH, LEAF (HALF)
S12	1-571-281-21	(DECK B)...SWITCH, LEAF (REC SIDE A)
S13	1-571-281-21	(DECK B)...SWITCH, LEAF (REC SIDE B)
S14	1-571-281-21	SWITCH, LEAF (CrO2)
S201	1-554-303-21	SWITCH, KEY BOARD (UP)
S202	1-554-303-21	SWITCH, KEY BOARD (SHIFT)
S203	1-554-303-21	SWITCH, KEY BOARD (MEMO)
S204	1-554-303-21	SWITCH, KEY BOARD (TUNER)
S205	1-554-303-21	SWITCH, KEY BOARD (DOWN)
S206	1-554-303-21	SWITCH, KEY BOARD (1)
S207	1-554-303-21	SWITCH, KEY BOARD (2)
S208	1-554-303-21	SWITCH, KEY BOARD (CD)
S209	1-554-303-21	SWITCH, KEY BOARD (BAND)
S210	1-554-303-21	SWITCH, KEY BOARD (3)
S211	1-554-303-21	SWITCH, KEY BOARD (4)
S212	1-554-303-21	SWITCH, KEY BOARD (TAPE)
S214	1-554-303-21	SWITCH, KEY BOARD (5)
S215	1-554-303-21	SWITCH, KEY BOARD (6)
S216	1-554-303-21	SWITCH, KEY BOARD (PHONO)
S218	1-554-303-21	SWITCH, KEY BOARD (7)
S219	1-554-303-21	SWITCH, KEY BOARD (8)
S220	1-554-303-21	SWITCH, KEY BOARD (9)
S701	1-554-303-21	SWITCH, KEY BOARD (DUBBING NORMAL SPEED)
S702	1-554-303-21	SWITCH, KEY BOARD (DUBBING HIGH SPEED)
S703	1-554-303-21	SWITCH, KEY BOARD (DECK B: ●)
S704	1-554-303-21	SWITCH, KEY BOARD (DECK B: ▶▶)
S705	1-554-303-21	SWITCH, KEY BOARD (DECK B: ◀◀)
S707	1-554-303-21	SWITCH, KEY BOARD (DECK A: ▶)
S708	1-554-303-21	SWITCH, KEY BOARD (DECK A: ■)
S709	1-554-303-21	SWITCH, KEY BOARD (DECK B: ■)
S710	1-554-303-21	SWITCH, KEY BOARD (DECK B: ❚❚)
S711	1-554-303-21	SWITCH, KEY BOARD (DECK B: ▶)
S712	1-554-303-21	SWITCH, KEY BOARD (DECK B: ◀)
S713	1-554-303-21	SWITCH, KEY BOARD (DECK B: O)
S714	1-554-303-21	SWITCH, KEY BOARD (DECK A: ◀◀)
S715	1-554-303-21	SWITCH, KEY BOARD (DECK A: ▶▶)
S716	1-572-269-11	SWITCH, SLIDE (DOLBY)
S717	1-572-268-11	SWITCH, SLIDE (DIRECTION)
S901	⚠.1-572-267-61	SWITCH, PUSH (AC POWER)(1 KEY)(POWER)

Ref.No.	Part No.	Description
T23	1-235-046-00	(WG,IT)..ENCAPSULATED COMPONENT(B.E.F)
T51	1-404-807-11	TRANSFORMER, DISCRIMINATOR
T81	1-433-331-11	(DECK B)..TRANSFORMER, BIAS OSCILLATION
T901	⚠.1-449-961-11	(AEP,WG,IT)...TRANSFORMER, POWER
T901	⚠.1-449-962-11	(UK)..........TRANSFORMER, POWER
TB1	1-537-264-11	(UK)...TERMINAL BOARD (ANTENNA)
TB1	1-537-288-11	(AEP,WG,IT)...TERMINAL BOARD (PAL)(ANTENNA)
TB401	1-537-265-11	TERMINAL BOARD (SPEAKER)
TP1	*1-560-060-00	PIN, CONNECTOR 2P (NULL)
TP2	*1-560-061-00	PIN, CONNECTOR 3P (DOLBY OUT)
X201	1-567-775-11	VIBRATOR, CERAMIC 4.19MHz
XT101	1-577-126-11	VIBRATOR, CRYSTAL 7.2MHz

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-501-369-11	(AEP)...ANTENNA
1-501-374-11	(AEP)...ANTENNA, LOOP
3-751-552-11	(AEP)...MANUAL, INSTRUCTION (ENGLISH,FRENCH,SPANISH,PORTUGUESE)
3-751-552-41	(AEP)...MANUAL, INSTRUCTION (GERMAN,DUTCH,SWEDISH,ITALIAN)
*4-912-075-01	(AEP)...CUSHION (SP)

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

PS-LX40/LX40P/LX43P/LX44P

SERVICE MANUAL

US Model
PS-LX43P

AEP Model
PS-LX40P/LX43P

UK Model
PS-LX40P/LX43P/LX44P

E Model
PS-LX40/LX40P/LX43P

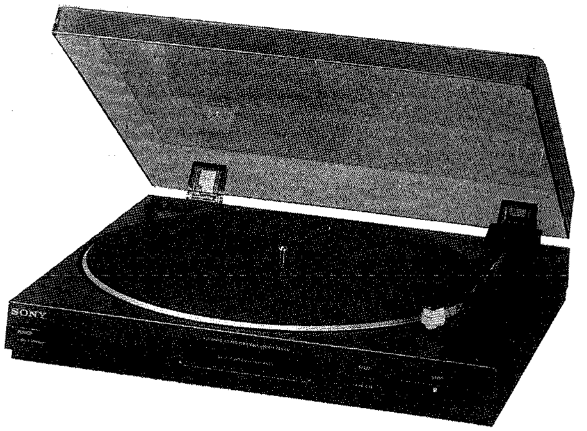


Photo : PS-LX40

SPECIFICATIONS

Turntable

Platter	30 cm
Motor	DC servo motor
Drive system	Belt drive
Speed	$33\frac{1}{3}$ rpm/45 rpm switchable
Wow and flutter	0.2% (WRMS)
Signal-to-noise ratio	50 dB (DIN-B)
Automatic system	Return, reject

Tonearm

Type	Statically balanced
Pivot-to stylus length	203 mm
Overall arm length	235 mm

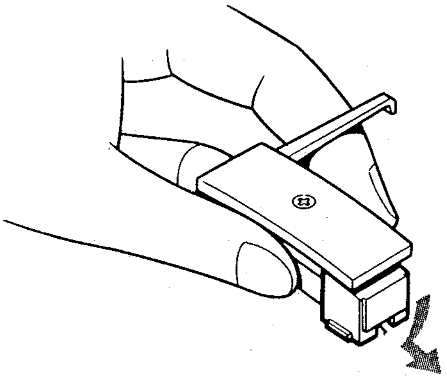
Cartridge

Type	Moving magnet type
Frequency response	20 Hz – 20kHz
Stylus	ND-155G

General

Dimensions	Approx. 355 × 95 × 345 mm ($14 \times 3\frac{3}{4} \times 13\frac{5}{8}$ inches)
Weight	PS-LX40 : Approx. 2.5 kg PS-LX40P/LX43P/LX44P : Approx. 2.1 kg (4 lb 11 oz)
Power requirements	PS-LX40 : 110 – 120 V, 220 – 240 V AC adjustable, 50/60 Hz PS-LX40P/LX43P/LX44P : 12V DC. Supplied from STEREO DECK RECEIVER (HST-).
Power consumption	4 W
Accessory supplied	45-rpm adaptor (1)
Optional accessories	Replacement stylus ND-155G

REPLACING THE STYLUS



Replace the stylus after about 400 hours of use because using a worn stylus will damage records.
An ND-155G replacement stylus is available at your Sony dealer.
Be sure to turn the amplifier off before proceeding with replacement.

1. While holding the cartridge, detach the stylus assembly as illustrated.
2. Insert the new stylus into the cartridge.

Design and specifications subject to change without notice.

MICROFILM

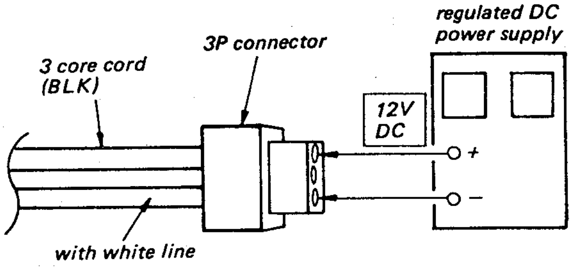
STEREO TURNTABLE SYSTEM

SONY®

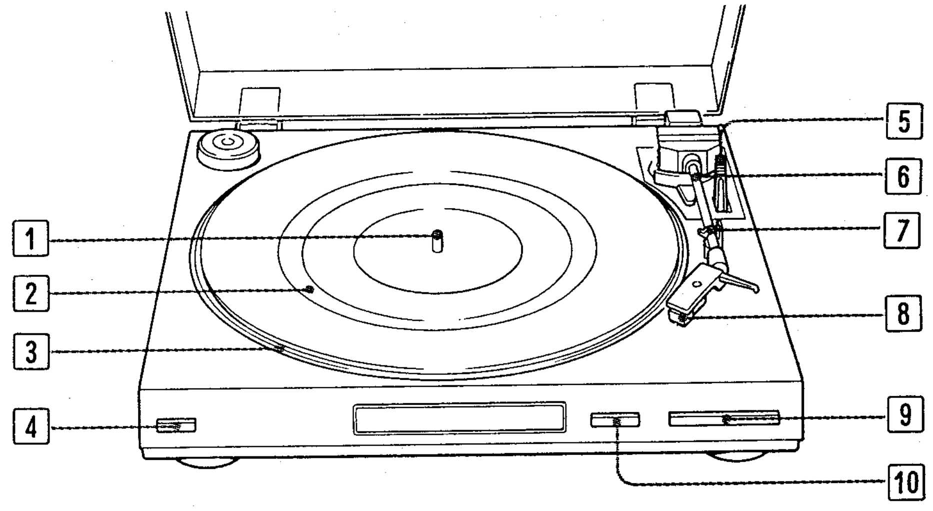
REPAIRING PRECAUTION (PS-LX40P/LX43P/LX44P only)

[To spply B+ voltage]

The power of this unit is fed from HST-D201, D301, D301CD or D501CD. Because of this, connect the regulated power supply as illustrated right when this unit alone operates.


regulated DC power supply
3P connector
3 core cord (BLK)
12V DC
+
−
with white line

LOCATION AND FUNCTION OF CONTROLS


1
2
3
4
5
6
7
8
9
10

1 Center spindle

2 Rubber mat

3 Turntable platter

4 POWER switch (PS-LX40 only)

5 Cueing lever (▼/▼)

6 Tonearm

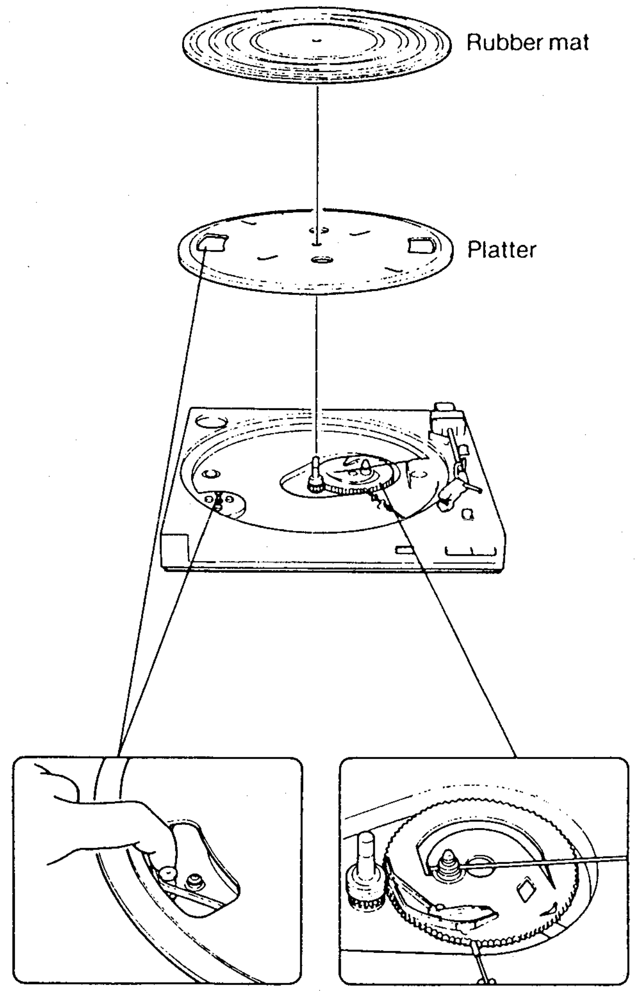
7 Arm rest

8 Cartridge

9 REJECT button

10 SPEED select button
Allows selection of 45 rpm or 33 rpm turntable speed.

TURNTABLE ASSEMBLY


Rubber mat
Platter

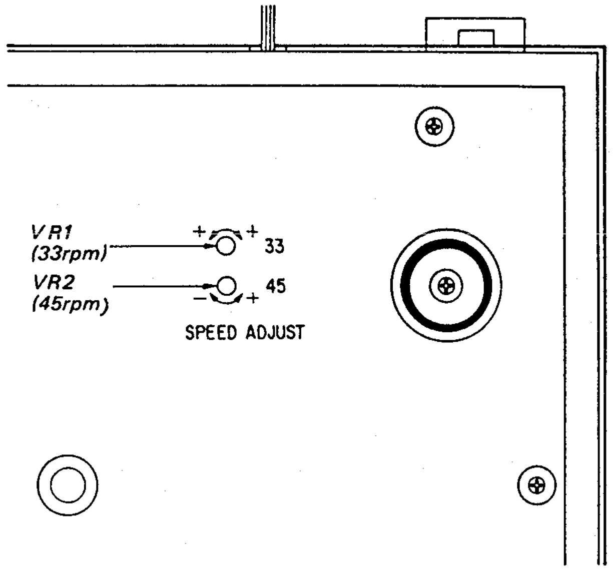
Hook the belt on the motor pulley.

If the belt is removed from the platter, replace it with the glossy side outward.

Speed Adjustment

Note: Be sure to perform 45rpm adjustment before 33 rpm.

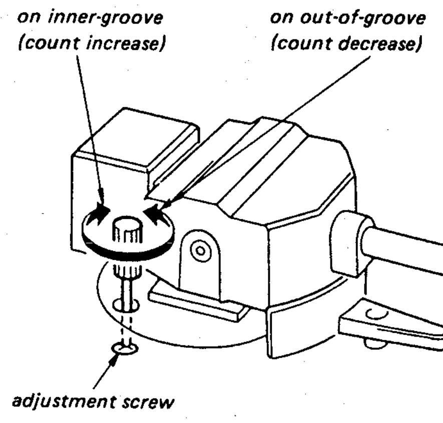
1. Place a stroboscope board on the turntable sheet.
2. Set the SPEED switch to 45.
   Press the START button.
   Adjust VR2 so that the stripped pattern of stroboscope board is stationary.
3. Set the SPEED switch to 33.
   Adjust VR1 in the same way.


VR1 (33rpm)
33
VR2 (45rpm)
45
SPEED ADJUST

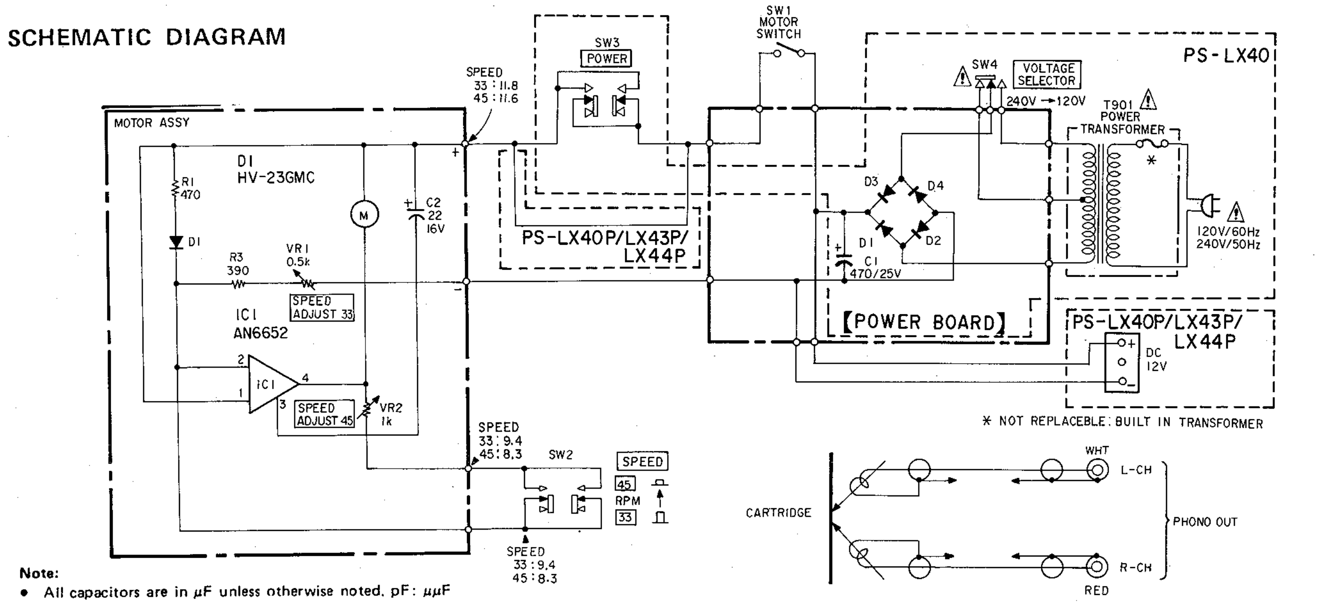
Stylus Drop-point Adjustment

1. Place a test record (YFSC-16) on the turntable sheet.
2. Set the SPEED switch to 33.
3. Press the START button.
4. By using a screwdriver, turn the adjustment screw so that the stylus tip drops on the record at the 7–17 counts position.
5. Move the arm to return detecting groove and confirm that the auto-return operation is started normally.

Note: The proper adjustment for a 30cm record is also correct for a 17cm record.
When turning adjustment screw, put the arm on the arm rest.


on inner-groove (count increase)
on out-of-groove (count decrease)
adjustment screw

SCHEMATIC DIAGRAM


1
2
3
4
5
6
7
A
B
C
MOTOR ASSY
D1 HV-23GMC
R1 470
D1
R3 390
VR1 0.5k
SPEED ADJUST 33
IC1 AN6652
IC1
SPEED ADJUST 45
VR2 1k
M
C2 22 16V
SPEED 33 : 11.8 45 : 11.6
SW3 POWER
PS-LX40P/LX43P/ LX44P
SW1 MOTOR SWITCH
PS-LX40
SW4
VOLTAGE SELECTOR
240V → 120V
T901 POWER TRANSFORMER
120V/60Hz 240V/50Hz
D1
D2
D3
D4
C1 470/25V
【POWER BOARD】
PS-LX40P/LX43P/ LX44P
DC 12V
SPEED 33 : 9.4 45 : 8.3
SW2
SPEED
45
RPM
33
SPEED 33 : 9.4 45 : 8.3
CARTRIDGE
WHT
L-CH
R-CH
RED
PHONO OUT

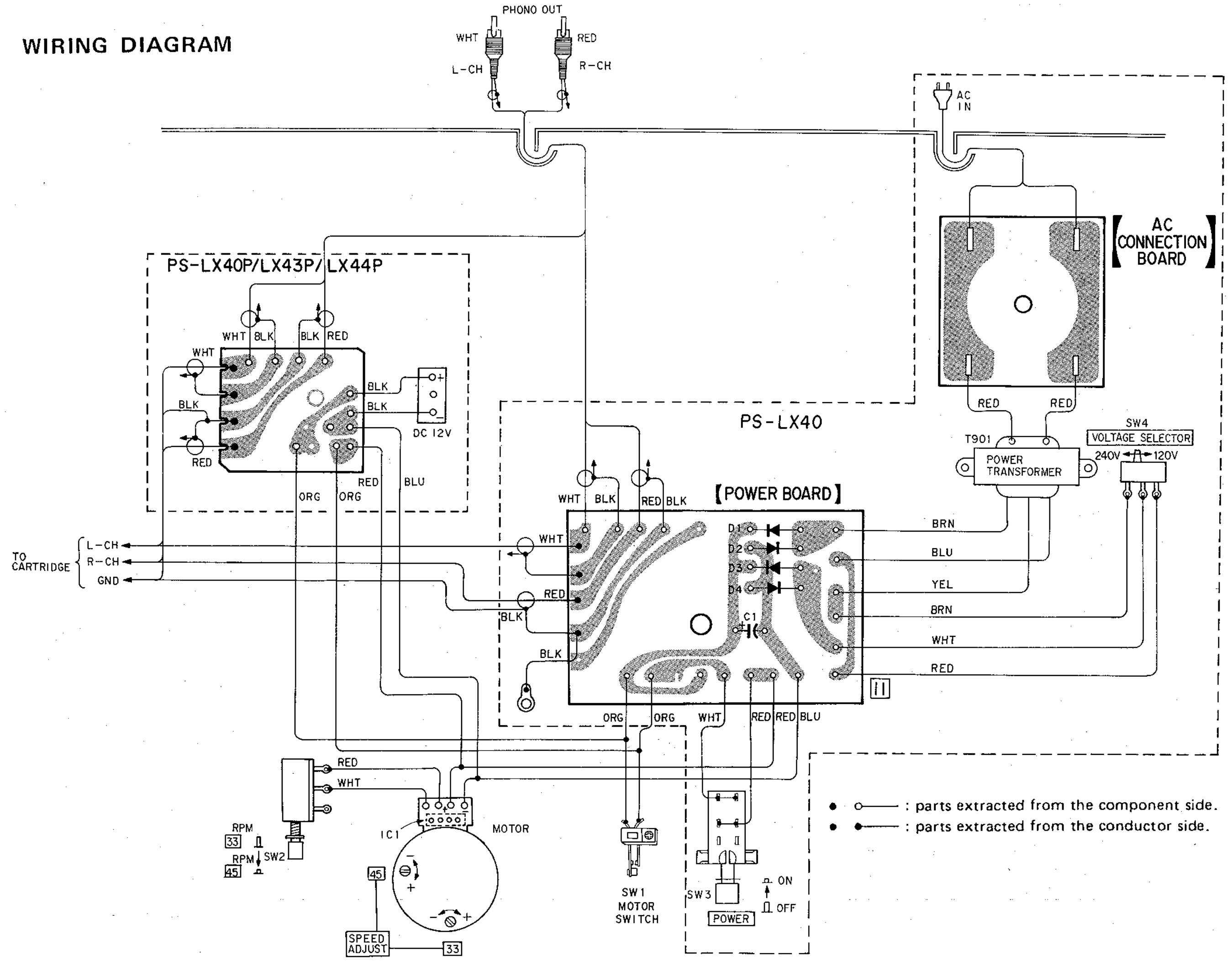
∗ NOT REPLACEBLE: BUILT IN TRANSFORMER

Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- Switches:

Ref. No.	Switch	Position
SW1	MOTOR	OFF
SW2	SPEED	33
SW3	POWER	OFF
SW4	VOLTAGE SELECTOR	240V

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

WIRING DIAGRAM

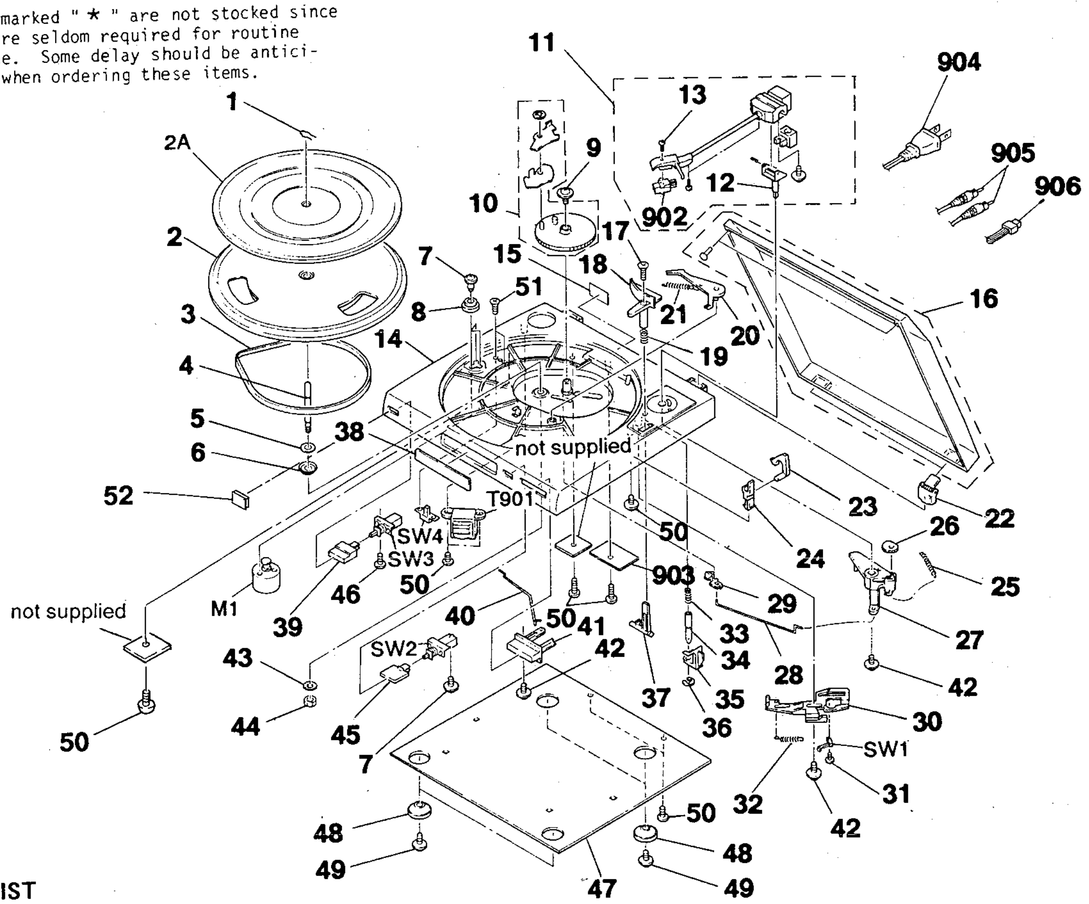

D
E
F
G
H
I
J
PHONO OUT
WHT
L-CH
RED
R-CH
AC IN
AC CONNECTION BOARD
PS-LX40P/LX43P/LX44P
WHT
BLK
BLK
RED
WHT
BLK
RED
BLK
BLK
DC 12V
ORG
ORG
RED
BLU
PS-LX40
RED
RED
T901
POWER TRANSFORMER
SW4
VOLTAGE SELECTOR
240V
120V
【POWER BOARD】
WHT
BLK
RED
BLK
D1
D2
D3
D4
C1
WHT
RED
BLK
BLK
BRN
BLU
YEL
BRN
WHT
RED
TO CARTRIDGE
L-CH
R-CH
GND
ORG
ORG
WHT
RED
RED
BLU
RED
WHT
RPM
33
RPM
45
SW2
IC1
MOTOR
45
SPEED ADJUST
33
SW1 MOTOR SWITCH
SW3
POWER
ON
OFF

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.

EXPLODED VIEW

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.



PARTS LIST

No.	Part No.	Description	Remarks
1	4-895-490-01	CLIP, SPINDLE	
2	A-4604-243-A	TURNTABLE ASSY (Platter)	
2A	4-896-518-01	MAT, TURNTABLE	
3	4-880-655-01	BELT	
4	4-896-361-01	SPINDLE	
5	4-895-024-01	POLY WASHER	
6	*4-895-404-01	SPINDLE WASHER	
7	7-685-646-79	SCREW, TA +BV3x8	
8	4-895-414-01	GROMMET (A)	
9	4-896-294-01	SCREW (7-BID 3006 ZN3A 10D)	
10	4-895-495-01	GEAR, CAM, CLUTCH	
11	A-4604-242-A	ARM ASSY	902
12	4-895-464-01	P.U. HINGE BRACKET	
13	7-627-553-98	SCREW, PRECISION +P2x8	
14	4-896-362-01	(LX40P:GRAY)....CABINET	
	4-896-387-01	(LX40)..........CABINET	
	4-896-504-01	(LX40P:WHITE)...CABINET	
	4-896-544-01	(LX43P:GRAY)...CABINET	
	4-896-545-01	(LX43P:WHITE)..CABINET	
	4-896-546-01	(LX44P)..............CABINET	
15	*4-896-347-01	(LX40)...LABEL, MODEL NUMBER	
	*4-896-348-01	(LX40P)...LABEL, MODEL NUMBER	
	*4-896-348-11	(LX40P:West Germany) ...LABEL, MODEL NUMBER	
16	A-4620-041-A	COVER ASSY, DUST	
17	7-621-561-49	SCREW, +K2.6x12	
18	4-896-258-01	PLATFORM, LIFT	
19	4-896-267-01	SPRING (A)	
20	4-896-364-01	LEVER, REJECT	
21	4-896-365-01	SPRING (C)	
22	4-895-410-01	HINGE ASSY	

No.	Part No.	Description	Remarks
23	4-895-418-01	P.U. TUBE HOOK	
24	4-895-417-01	P.U. REST	
25	4-895-460-01	ADJUST SPRING	
26	4-895-818-01	ADJUST CAM	
27	*4-896-372-01	LINK, RETURN	
28	*4-896-371-01	ROD, TRIP	
29	4-896-304-01	LEVER, TRIP	
30	*4-896-373-01	ARM, SLIDE	
31	7-685-104-19	SCREW, +P2x6	
32	4-896-374-01	SPRING (SLIDE ARM)	
33	4-896-251-01	SPRING (B)	
34	4-896-252-01	SHAFT, ARM LIFT	
35	4-896-253-01	FORK, LIFT	
36	4-896-254-01	RING (DIA.3), E	
37	4-896-212-01	LEVER, CUE	
38	4-896-366-01	PANEL, FRONT	
39	4-896-388-01	(LX40)...BUTTON, POWER	
40	4-896-367-01	LOT (REJECT)	
41	4-896-368-01	(GRAY)...BUTTON, STOP	
	4-896-398-01	(WHITE).......BUTTON, STOP	
42	4-896-369-01	SCREW (7-CUP 3008 WF12 ZN3A)	
43	7-623-424-07	LW 5	
44	7-684-024-04	N 4	
45	4-896-370-01	(GRAY)...BUTTON, SPEED	
	4-896-399-01	(WHITE).......BUTTON, SPEED	
47	4-896-376-01	PLATE, BOTTOM	
48	4-895-435-01	FOOT	
49	4-896-377-01	SCREW (7-CUP 3010 WF12 ZN3A)	
50	4-896-375-01	SCREW (7-CUP 3012 WF08 ZN3K)	
51	7-621-775-20	SCREW, +B2.6x5	
52	4-925-161-21	(LX44P).........EMBLEM(4-A),SONY	

ELECTRICAL PARTS

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description
902	1-549-135-11	CARTRIDGE
903	- - -	(LX40)...PC BOARD, POWER
904	⚠ 1-555-795-00	(LX40:AEP, West Germany, Saudi Arabia) ....CORD, POWER, EULO PLUG
	⚠ 1-551-188-XX	(LX40:E)...CORD, POWER
905	1-555-116-11	CORD, CONNECTION
906	1-557-109-21	(LX40P/LX43P/LX44P)...CORD, CONNECTION (3 CORE)
C1	1-123-336-00	ELECT 470μF 25V
D1	8-719-200-02	(LX40)...DIODE 10E2
D2	8-719-200-02	(LX40)...DIODE 10E2
D3	8-719-200-02	(LX40)...DIODE 10E2
D4	8-719-200-02	(LX40)...DIODE 10E2
M1	A-4604-244-A	MOTOR ASSY
SW1	1-570-666-11	SWITCH, LEAF
SW2	1-571-089-11	SWITCH, PUSH (1 KEY) (SPEED)
SW3	1-571-560-11	(LX40)...SWITCH, PUSH (1 KEY) (POWER)
SW4	⚠ 1-571-088-11	(LX40)...SWITCH, SLIDE (VOLTAGE SELECTOR)
T901	⚠ 1-449-291-11	(LX40)...TRANSFORMER, POWER

ACCESSORY & PACKING MATERIAL

Part No.	Description
3-701-806-00	ADAPTOR, 45
3-750-345-11	(LX40)...MANUAL, INSTRUCTION (English, French, Spanish)
4-896-513-01	(LX40)...INDIVIDUAL CARTON
4-896-384-01	(EXCEPT LX40)......CUSHION(R)
4-896-385-01	(EXCEPT LX40)......CUSHION(L)

9-955-811-11

Sony Corporation
Audio Group

English
90D09100-1
Printed in Japan
© 1990.4
Published by Customer Relations and Service Group

SS-A302

SERVICE MANUAL

AEP Model
UK Model

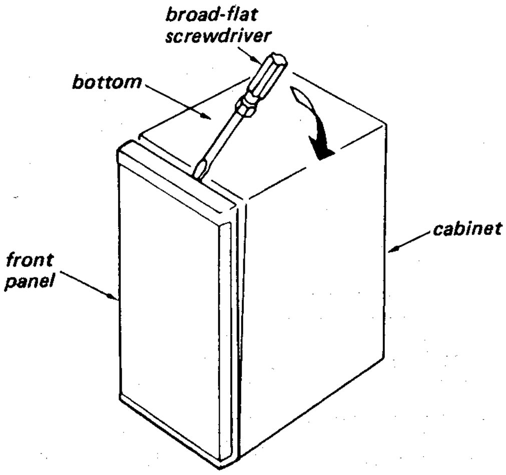
SPECIFICATIONS

Speaker system	3-way speaker system
Speaker units	Woofer: 16 cm, cone type Midrange: 6 cm, cone type Tweeter: 1.6 cm, dome type
Enclosure type	Acoustic suspension
Nominal impedance	6 ohms
Power handling capacity	Music 70 W
Sensitivity	88 dB (1 W, 1 m), 6.3 W (96 dB, 1 m)
Frequency range	50 Hz to 20,000 Hz
Dimensions	Approx. 240 x 431 x 193 mm (w/h/d)
Weight	Approx. 3.6 kg per speaker, net Approx. 8.0 kg in shipping carton

Design and specifications subject to change without notice.

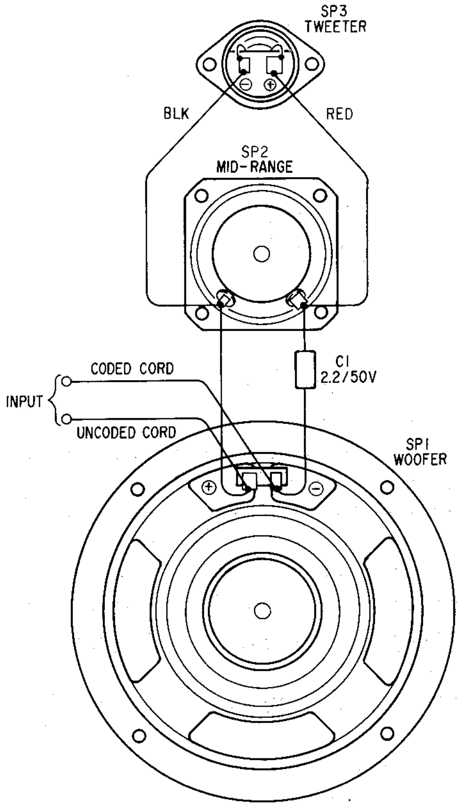
This set is the speaker system in XO-D302.

1. FRONT PANEL REMOVAL


broad-flat screwdriver
bottom
cabinet
front panel

Note: Be careful not to scratch the cabinet.

2. WIRING DIAGRAM


SP3
TWEETER
BLK
RED
SP2
MID-RANGE
CODED CORD
INPUT
UNCODED CORD
C1
2.2/50V
SP1
WOOFER

MICROFILM

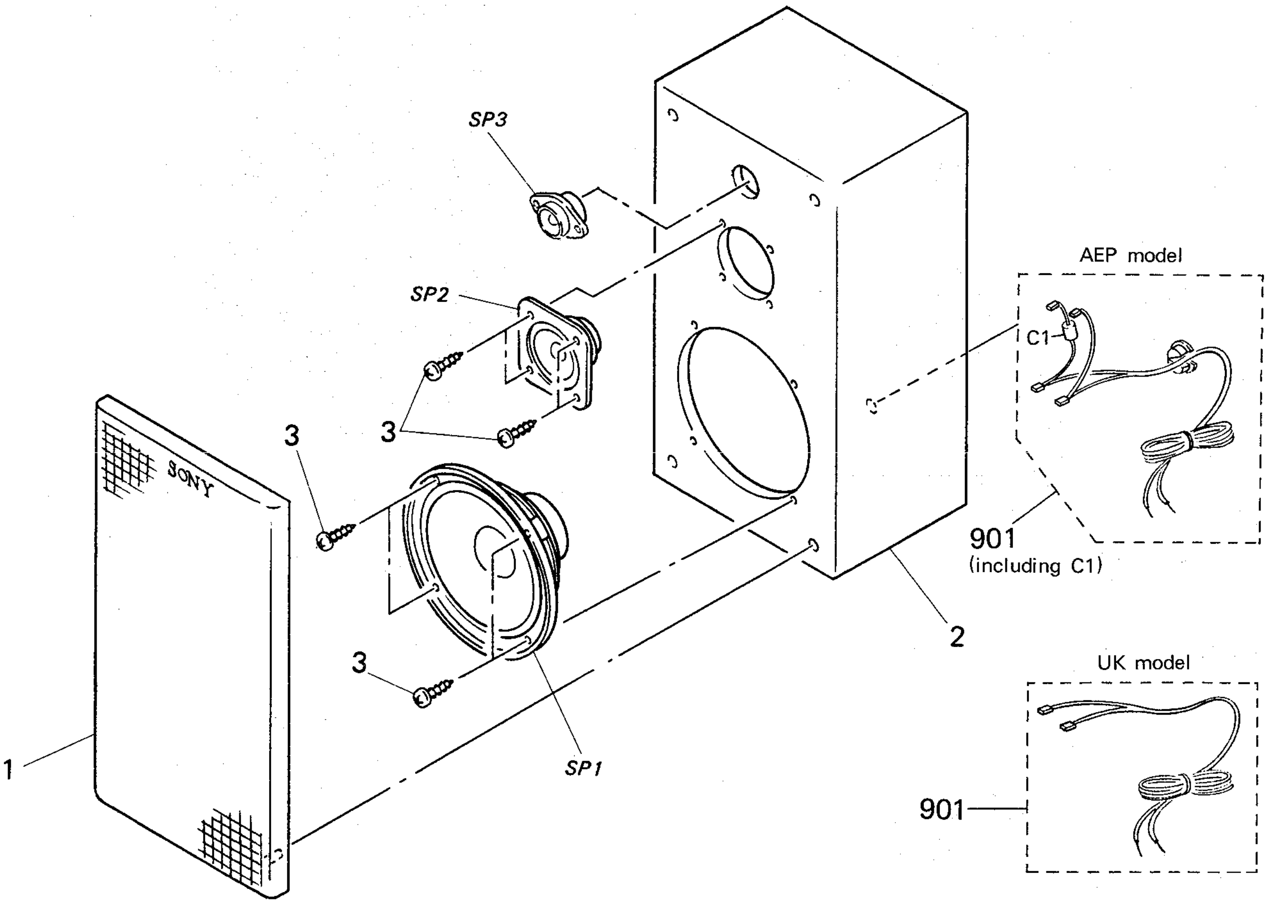
SPEAKER SYSTEM

SONY®

3. EXPLODED VIEW AND PARTS LIST

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.



o.	Part No.	Description
1	T-8150-365-A	(AEP:BLACK)··PANEL ASSY, FRONT
	T-8150-375-1	(AEP:WHITE)··PANEL ASSY, FRONT
	T-8150-371-A	(UK :BLACK)··PANEL ASSY, FRONT
2	T-8151-224-1	(AEP:BLACK)····SPEAKER BOX
	T-8151-241-1	(AEP:WHITE)····SPEAKER BOX
	T-8151-226-1	(UK :BLACK)····SPEAKER BOX
3	T-8150-573-1	TAPPING SCREW +P 4X15

ELECTRICAL PARTS

Ref.No.	Part No.	Description
901	T-8150-372-A	(AEP)··· KIT ASSY, WIRE
	T-8110-453-1	(UK)···· CORD, SPEAKER
C 1	T-8110-253-1	CAP 2.2MF 50V
SP1	T-8110-420-1	WOOFER
SP2	1-544-046-11	MID RANGE
SP3	1-544-135-21	TWEETER

ACCESSORY & PACKING MATERIAL

Part No.	Description
T-8151-230-1	(AEP)··· MANUAL, INSTRUCTION
T-8151-190-1	(UK)···· MANUAL, INSTRUCTION

English
90D0460-1
Printed in Japan
© 1990. 4

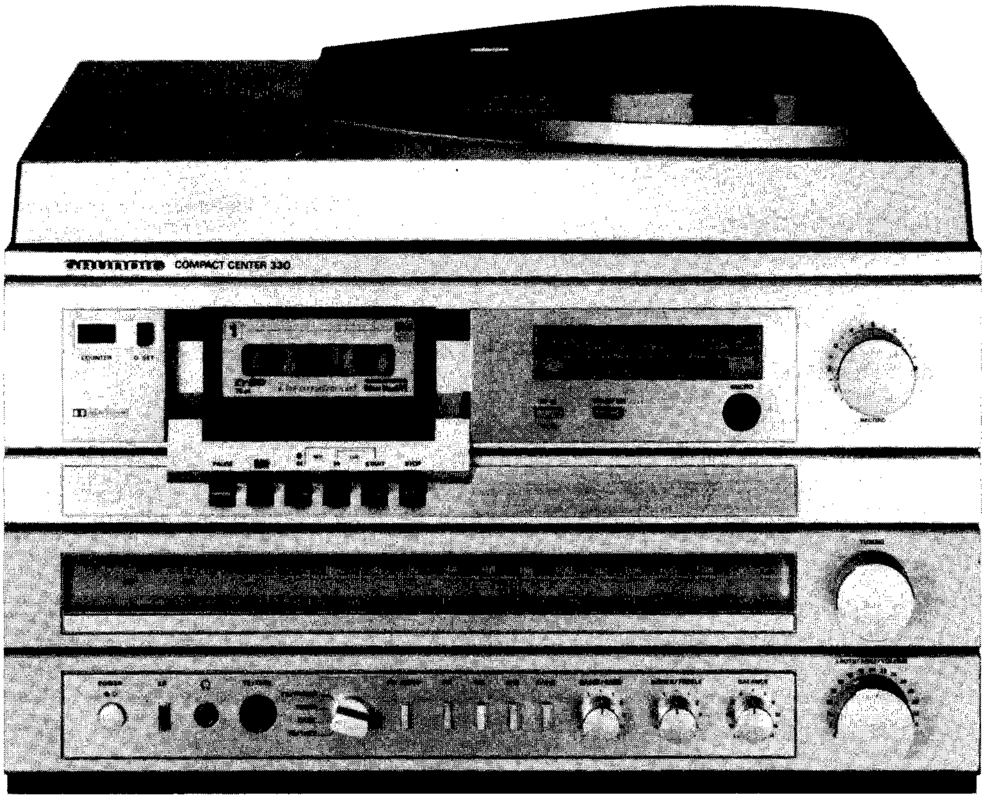
Sony Corporation
Audio Group

Published by Customer Relations and Service Group

GRUNDIG
Service Anleitung

9/82

R 300
CC 330



Abgleich- und Prüfvorschrift

1. Allgemeine Hinweise
2. Ausbauhinweise
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3.3 Regelbereich des Balancereglers
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6.3 Pilot- und Hilfsträgerreste
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6.5 FM-Fremdspannungsabstand
7. AM-FM Seilzug

1. Allgemeine Hinweise

Das Gerät muß den Sicherheitsbestimmungen gemäß VDE 0860 H/ . . 69 entsprechen. Hierbei sind folgende Punkte besonders zu beachten:

a) Alle netzspannungsführenden Leitungen müssen in den Lötösen durch Umbiegen mechanisch gesichert sein.

b) Primärseitig sind nur doppelt isolierte Leitungen zugelassen.

c) Schwer entflammbare Widerstände, Berührungsschutzkondensatoren und Sicherungen (G-Schmelzeinsätze) müssen den geforderten Bedingungen entsprechen und die im Schaltbild aufgeführten Werte besitzen.

d) Auf der Primärseite sind die geforderten Luft- und Kriechwege unbedingt einzuhalten:

   1. Mindestabstand zwischen netzspannungsführenden Teilen und berührbaren Metallteilen (Metallgehäuse usw.): 6 mm.
   2. Mindestabstand zwischen den Netzpolen: 3 mm

e) Prüfspannung zwischen Netzpolen und berührbaren Teilen (Metallgehäuse, Anschlußbuchsen usw.) : 3000 $V_{eff.}$ Soweit für die in diesem Gerät verwendeten Transistoren und Dioden BV-Blätter angelegt wurden, ist zu gewährleisten, daß nur solche Transistoren und Dioden eingesetzt werden, die den darin aufgeführten Specifikationen entsprechen. Bei Verwendung von Ersatz- bzw. Ausweichtransistoren ist vorher die Genehmigung des ZKD einzuholen.

Es ist darauf zu achten, daß alle Kondensatoren bzw. Elkos die vorgeschriebenen Betriebsspannungen und speziellen Eigenschaften besitzen (MKT, FKC, Tantal usw.). Der Netztrafo muß gegen Schwirren und andere Eigenschaften fest verschraubt sein.

Die Auflagefläche für die Endstufen IC's auf dem Kühlkörper muß sauber und gratfrei sein. Die Endstufen IC's reichlich mit Wärmeleitpaste bestreichen.

Für Lötarbeiten in der Nähe von Spulen mit HF-Eisen- oder Ferritkernen dürfen keine magnetisch wärmegeregelten Lötkolben ohne besondere Abschirmmaßnahmen verwendet werden (z. B. Magnastat von Weller).

2. Ausbauhinweise

Öffnen des Gerätes (bei CC 330) Abb. 1:

1. Vier Schrauben ⓐ im Boden und an der Rückwand herausdrehen.
2. Receiver und Cassettendeck nach vorne herausziehen.
3. Zwei Steckverbindungen des Plattenspielers lösen.

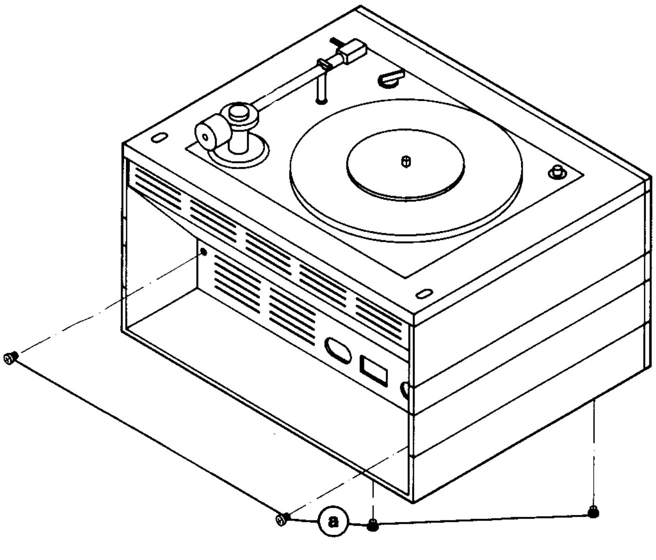


Abb. 1

Demontage des Cassettendecks (bei CC 330) Abb. 2:

1. Vier Schrauben ⓑ herausdrehen.
2. 1 Schraube lösen, Kupplungsplatte abnehmen.
3. Gerät abheben.
4. Für das Cassettendeck gibt es eine gesonderte Service-Anleitung.

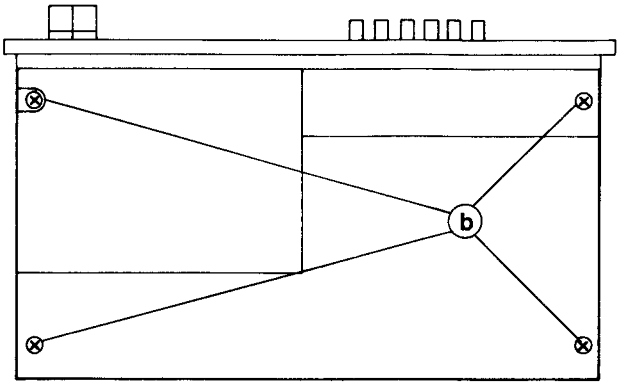


Abb. 2

Ausbau des Receivers (Abb. 3) :

1. Die Schrauben ⓒ herausdrehen.
2. Chassis mit Frontseite herausnehmen und hochkant stellen.

   (Bei R 300 zum Abnehmen des Gehäuses vier Schrauben im Boden und eine an der Rückwand herausdrehen, dann wie beschrieben, das Chassis ausbauen.)

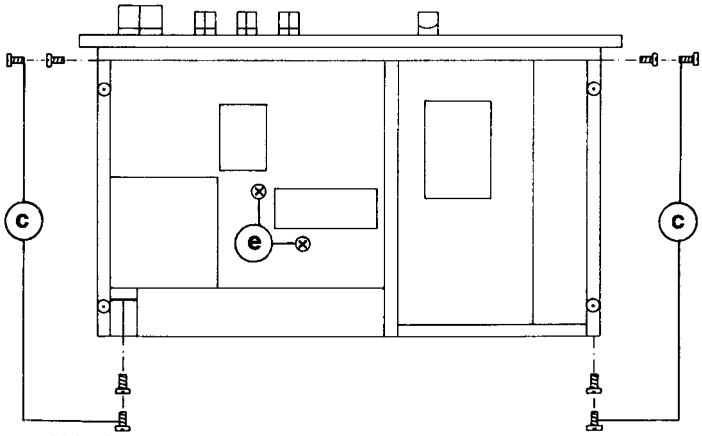


Abb. 3

Ausbau des Plattenspielers:

1. Plattenteller abnehmen.
2. Die zwei Transportsicherungen lockern.
3. Plattenspieler nach oben abnehmen.
4. Zwei Steckverbindungen lösen.
5. Für den Plattenspieler gibt es eine gesonderte Service-Anleitung.

3. Prüfung des NF-Verstärkers

Bei allen NF-Messungen und Prüfungen gelten – wenn nicht anders angegeben – folgende Bedingungen:

Meßeingang TB, Bereichschalter auf TB.

$U_E \approx 50$ mV über 22 kΩ, f = 1 kHz.

Lautstärkeregler auf Maximum, Klangregler und Balance auf „Mitte".

Abschluß der Lautsprecherausgänge mit induktionsfreien ohm'schen Widerständen.

R = 4 Ω ± 0,5%, 50 W.

3.1 Ausgangsleistung und Klirrfaktor

$U_E \approx 370$ mV, mit Lautstärkeregler 2 × 15 W (≙ 7,75 V_{eff} an 4 Ω) einstellen.

Bei f = 180 Hz, 1 kHz und 12 kHz = $K_{ges} \leq 10\%$.

3.2 Regelbereich der Klangregler

Bezugsfrequenz: 1 kHz ≙ 0 dB
Baßregler: Meßfrequenz 70 Hz
Max. Anhebung: 9 dB ± 3 dB
Max. Absenkung: 11,5 dB ± 3 dB
Höhenregler: Meßfrequenz 12 kHz
Max. Anhebung: 5 dB ± 3 dB
Max. Absenkung: 12 dB ± 3 dB

3.3 Regelbereich des Balancereglers

Meßfrequenz: 1 kHz

Max. Absenkung: 10 dB ± 2 dB

3.4 Physiologie (Contour)

Die Messung erfolgt bei –37 dB Abregelung des Lautstärkereglers.

Bezugsfrequenz: 800 Hz ≙ 0 dB
Meßfrequenz 70 Hz: Anhebung 19 dB ± 2 dB
Meßfrequenz 12 kHz: Anhebung 5 dB ± 2 dB

3.5 Übersprechen

NF-Voltmeter über Tiefpaß, fg = 20 kHz an Lautsprecherbuchsen, Effektivwertmessung 1 kHz.

TB-Eingang des nicht angesteuerten Kanals mit
22 kΩ || 250 pF abschließen.

Übersprechdämpfung ≥ 45 dB

3.6 Fremdspannungsabstand

NF-Voltmeter mit Bandpaß fg I = 31,5 Hz, fg II = 20 kHz; und Spitzenwertanzeige nach DIN 45 405 an Lautsprecherbuchsen. Der Anschluß der Abschlußwiderstände für die Fremdspannungsmessung muß unbedingt gut abgeschirmt unmittelbar an den Eingangsbuchsen erfolgen.

a) Eingang TB

Abschluß des TB-Eingangs bei Fremdspannungsmessung:
22 kΩ || 250 pF pro Kanal.
Mit Lautstärkeregler die jeweilige Ausg.-Leistung einstellen, Frequenzgang mit Klangreglern soweit als möglich linearisieren!

Eingangspegel der Meßfrequenz (1 kHz) : 0,5 $V_{eff.}$

Fremdspannungsabstand:

bezogen auf 2 × 15 W: ≥ 67 dB

bezogen auf 2 × 50 mW: ≥ 56 dB

b) Eingang TA

Abschluß des TA-Einganges bei Fremdspannungsmessung: 2,2 kΩ pro Kanal.

Mit Lautstärkeregler die jeweilige Ausg.-Leistung einstellen, Frequenzgang mit Klangreglern soweit als möglich linearisieren!

Eingangspegel der Meßfrequenz (1 kHz) : 5 mV_{eff}

Fremdspannungsabstand:

bezogen auf 2 × 15 W: ≥ 46 dB

3.7 Frequenzgang TA

Meßeingang TA-Cinch.

f	70 Hz	180 Hz	800 Hz	5 kHz	12 kHz
dB	+14	+8,5	0	–9,5	–15,5

Toleranz ± 2,5 dB

4. FM-Abgleich

Wobbelsender an Antennenbuchse, Sichtgerät an MP ▽C, erdfreies 0-V-Meter an MP ▽A und MP ▽B.

Gerät auf UKW. Abgleich mit kleinstmöglicher HF-Spannung durchführen. Alle Kerne oben.

Balance- und Klangregler in Mittenstellung.

4.1 FM-ZF-HF-Abgleich

Wobbelsender und Mittenfrequenz auf 106 MHz, Hub 200 kHz, Gerät auf 106 MHz.

Demodulatorkreis Ⓖ stark verstimmen (Kern herausdrehen). Mit Ⓐ Empfangsfrequenz abgleichen.

ZF-Kurve mit Ⓒ, Ⓔ und Ⓕ auf Maximum und Symmetrie abgleichen.

Demodulatorkreis Ⓖ auf 0-Durchgang an MP ▽A und MP ▽B einstellen.

Sender mit 1 kHz und 40 kHz modulieren, U_e = 0,5 mV/75 Ω. Ⓖ auf K_{ges}-Minimum abgleichen.

Sender und Gerät auf 88 MHz. Oszillator mit Ⓑ auf Mittenfrequenz und Zwischenkreis mit Ⓓ auf Maximum abgleichen.

Abgleich von Oszillator- und Zwischenkreis abwechselnd bei 106 MHz und 88 MHz wiederholen, bis keine Verbesserung mehr eintritt, mit 106 MHz beenden.

Achtung: Werden bei diesem Abgleich die Grenzfrequenzen 87,2 MHz und 108,5 MHz nicht eingehalten, Oszillator an den Bandgrenzen abgleichen.

4.2 FM-Übersprechen

Meßsender auf 96 MHz, 0,5 mV/75 Ω stereomoduliert mit f_{mod} 1 kHz.

Der Hub beträgt 40 kHz + 7,5 kHz Pilothub.

Gerät auf 96 MHz, FM-Mono ausgelöst.

a) Regler R 54 auf Rechtsanschlag.

b) Erst R 53, dann R 54 auf minimales Übersprechen abgleichen.

Abgleich von R 53 nicht wiederholen.

4.3 Abgleich 19 kHz Pilotfilter

Sender mit Stereo-Modulation empfangen.

19 kHz an Lautsprecherbuchsen selektiv messen.

Pilotfilter ⑫ und ⑬ auf Minimum abgleichen.

5. AM-Abgleich

Wobblerausgang nur über Kunstantenne an Antennenbuchse anschließen. Sichtgerät über NF-Tastkopf an MP D.

Mit kleinstmöglicher HF-Spannung abgleichen, soweit nicht anders angegeben.

5.1 AM-ZF-Abgleich

Die ZF-Mittenfrequenz ergibt sich durch das Keramikfilter. Gerät auf MW, Wobbelfrequenz 560 kHz.
Mit Ⓗ Kurve auf Maximum und Symmetrie abgleichen.

5.2 MW-Oszillator und -Vorkreis

Meßsender und Gerät auf 560 kHz.

Mit ③ und ⑨ auf Sollfrequenz und Maximum abgleichen.

Meßsender auf 1450 kHz, Gerät auf 1450 kHz.

Mit ④ und ⑩ auf Sollfrequenz und Maximum abgleichen.

Wechselweise wiederholen, bis keine Verbesserung mehr möglich ist, mit 1450 kHz beenden.

5.3 LW-Oszillator und -Vorkreis

Dieser Abgleich darf nur nach erfolgtem MW-Abgleich vorgenommen werden.

Gerät auf LW 160 kHz, Senderfrequenz 160 kHz. Mit ⑤ und ⑪ auf Sollfrequenz und Maximum abgleichen.

Meßsender auf 290 kHz. Gerät auf 290 kHz. Mit ⑥ auf Maximum abgleichen.

Wechselweise wiederholen, bis keine Verbesserung mehr möglich ist, mit 290 kHz beenden.

5.4 KW-Oszillator und -Vorkreis

Gerät auf KW 7 MHz, Senderfrequenz 7 MHz. Mit ① und ⑦ auf Sollfrequenz und Maximum abgleichen.

Meßsender und Gerät auf 14 MHz. Mit ② und ⑧ auf Sollfrequenz und Maximum abgleichen.

Wechselweise wiederholen, bis keine Verbesserung mehr möglich ist, mit 14 MHz beenden.

6. FM-Prüfungen

6.1 FM-Klirrfaktor

a) Klirrarmer Mono-Sender auf 95,2 MHz, Gerät auf 95,2 MHz.
HF-Pegel 0,5 mV/75 Ω, f_{mod} 1 kHz bei 40 kHz Hub, Klirrfaktor (K 2 + K 3) für linken und rechten Kanal ≤ 1%.

b) Stereo-Sender 95,2 MHz, Gerät auf 95,2 MHz.

HF-Pegel mV/75 Ω, f_{mod} 1 kHz bei 40 kHz Hub +7,5 kHz Pilothub.

Stereo R bzw. L moduliert mit einem Pilothub von 6 - 7,5 kHz; Klirrfaktor (K 2 + K 3) für linken und rechten Kanal ≤ 1%.

6.2 Mono-Stereo-Schaltschwelle

Sender mit Pilot und Kennmodulation in Bereichsmitte empfangen.
Bei U_e = 15 μV/75 Ω leuchtet die Stereolampe.
Bei U_e = 2 μV/75 Ω leuchtet die Stereolampe nicht.

6.3 Pilot- und Hilfsträgerreste

Sender mit 0,5 mV/75 Ω, fm = 1 kHz, Hub 40 kHz,
Pilothub 6 – 7,5 kHz.
19 kHz und 38 kHz selektiv messen.
19 kHz ≥ −60 dB
38 kHz ≥ −60 dB

6.4 FM-Frequenzgang

Lautstärke-, Baß- und Höhenregler auf Ma

Sender mit 0,5 mV/75 Ω, Preemphasis 50 μs

Bei $f_{mod.}$ =1 kHz Hub ca. 3 kHz

Bezug 1 kHz ≙ 0 dB

Von 180 Hz bis 12,5 kHz Abweichung max. 2 dB

6.5 FM-Fremdspannungsabstand

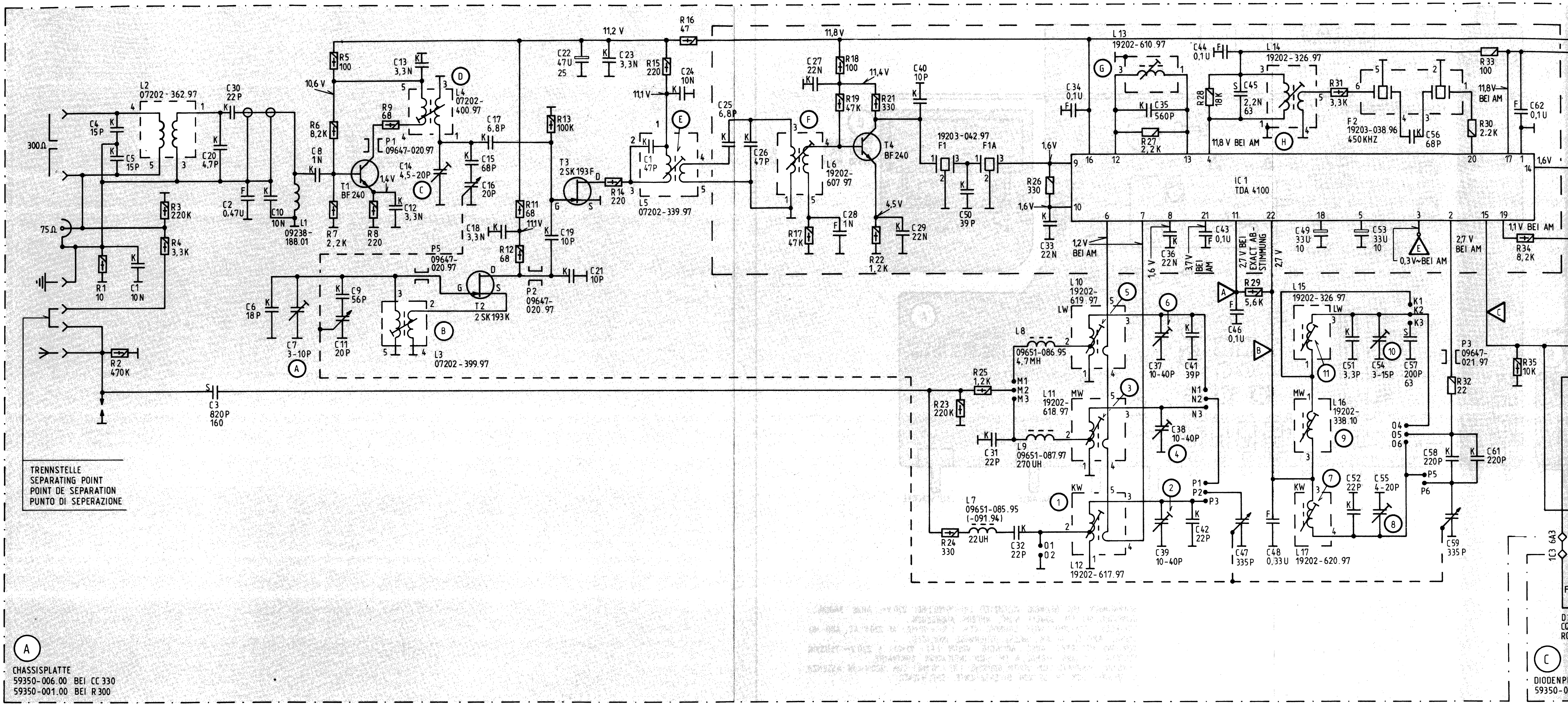
Lautstärkeregler und Höhenregler in Mittelstellung, Baßregler auf Linksanschlag.

NF-Voltmeter mit Bandpaß 31,5 Hz – 15 kHz und Spitzenwertanzeige an LS-Buchsen.

Sender auf 0,5 mV/75 Ω.

Bezogen auf 40 kHz Hub, fm = 1 kHz ist der Fremdspannungsabstand ≥ 55 dB

Notizen :


300Ω
75Ω
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C5 15P
L2 07202-362.97
C30 22P
C20 4,7P
C2 0,47U
C10 10N
L1 09238-188.01
R1 10
C1 10N
R3 220K
R4 3,3K
R2 470K
C3 820P 160
C6 18P
C7 3-10P
C8 1N
10,6 V
R5 100
R6 8,2K
R7 2,2K
R8 220
R9 68
C13 3,3N
L4 07202-400.97
P1 09647-020.97
C14 4,5-20P
C12 3,3N
T1 BF 240
1,4 V
C17 6,8P
C15 68P
C16 20P
C9 56P
C11 20P
L3 07202-399.97
P5 09647-020.97
T2 2SK193K
C18 3,3N
11,2 V
C22 47U 25
C23 3,3N
R13 100K
R11 68
11,1V
R12 68
C19 10P
P2 09647-020.97
C21 10P
T3 2SK193F
R14 220
R16 47
R15 220
C24 10N
11,1 V
C1 47P
L5 07202-339.97
C25 6,8P
C26 47P
L6 19202-607.97
C27 22N
R18 100
R19 47K
11,4 V
R21 330
T4 BF240
R17 47K
C28 1N
4,5V
R22 1,2K
C29 22N
11,8 V
C40 10P
19203-042.97
F1
F1A
C50 39P
C34 0,1U
1,6V
R26 330
1,6V
C33 22N
L13 19202-610.97
C44 0,1U
L14 19202-326.97
C35 560P
R27 2,2K
R28 18K
C45 2,2N 63
11,8 V BEI AM
R31 3,3K
F2 19203-038.96 450KHZ
C56 68P
R33 100
11,8V BEI AM
R30 2,2K
C62 0,1U
IC1 TDA 4100
1,2V BEI AM
C36 22N
C43 0,1U
3,7V BEI AM
2,7 V BEI EXACT ABSTIMMUNG
2,7 V
C49 33U 10
C53 33U 10
0,3V~BEI AM
2,7 V BEI AM
1,1 V BEI AM
R34 8,2K
1,6 V
1,6V
R29 5,6K
C46 0,1U
L10 19202-619.97
LW
L8 09651-086.95 4,7MH
R25 1,2K
R23 220K
M1 M2 M3
L11 19202-618.97
MW
C31 22P
L9 09651-087.97 270UH
C37 10-40P
C41 39P
N1 N2 N3
C38 10-40P
L7 09651-085.95 (-091.94)
R24 330
22UH
C32 22P
O1 O2
KW
L12 19202-617.97
C39 10-40P
C42 22P
P1 P2 P3
C47 335P
C48 0,33U
L15 19202-326.97
K1 K2 K3
C51 3,3P
C54 3-15P
C57 200P 63
L16 19202-338.10
MW
O4 O5 O6
L17 19202-620.97
C52 22P
C55 4-20P
P3 09647-021.97
R35 10K
R32 22
C58 220P
C61 220P
P5 P6
C59 335P
1C3 6A3

TRENNSTELLE
SEPARATING POINT
POINT DE SEPARATION
PUNTO DI SEPERAZIONE

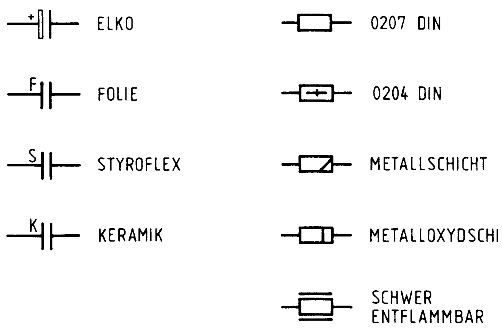
Ⓐ CHASSISPLATTE
59350-006.00 BEI CC 330
59350-001.00 BEI R 300

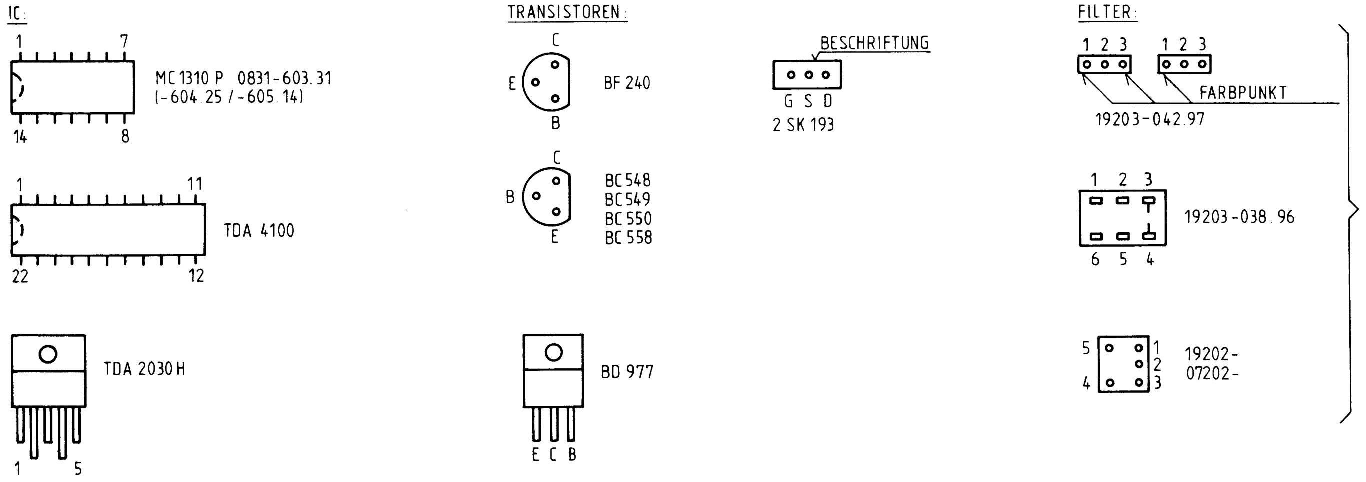
Ⓒ DIODENP
59350-0

WELLENBEREICHE:	UKW/FM	87,5 - 108 MHZ
WAVE BANDS:	MW/PO/OM	520-1610 KHZ
GAMMES D'ONDES:	LW/GO/OL	150 - 320 KHZ
GAMME D'ONDA:	KW/SW/OC	5,9-16,2 MHZ

ERSATZTYPEN IN KLAMMER ( )
INTERCHANGEABLE TYPES IN BRACKETS ( )
TYPES DE RECHANGE EN PARENTHESES ( )
TIPI DI RICAMBI IN ( )

AENDERUNGEN VORBEHALTEN
ALTERATIONS RESERVED
MODIFICATIONS RESERVEES
CON RISERVA DI MODIFICA


ELKO
FOLIE
S
STYROFLEX
K
KERAMIK
0207 DIN
0204 DIN
METALLSCHICHT
METALLOXYDSCHICHT
SCHWER ENTFLAMMBAR


IC:
1 7
14 8
MC 1310 P 0831-603.31 (-604 25 / -605 14)
1 11
22 12
TDA 4100
TDA 2030 H
1 5
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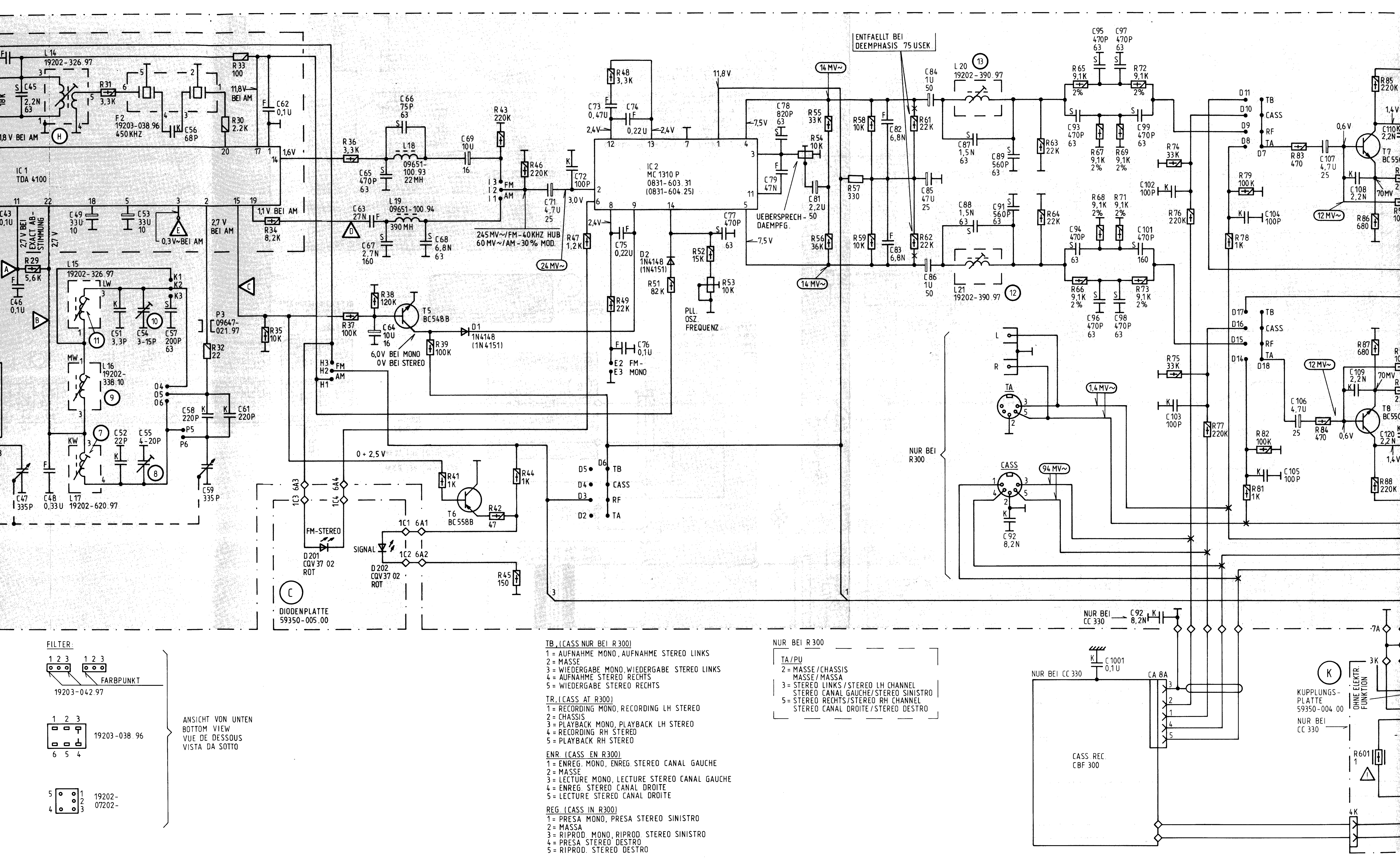
C E B
BF 240
C B E
BC 548
BC 549
BC 550
BC 558
BD 977
E C B
BESCHRIFTUNG
G S D
2 SK 193
FILTER:
1 2 3
1 2 3
FARBPUNKT
19203-042.97
1 2 3
6 5 4
19203-038.96
5 1 4 2 3
19202-
07202-

ANSICHT VON UNTEN
BOTTOM VIEW
VUE DE DESSOUS
VISTA DA SOTTO

C		4, 5,	1,		3, 20, 30, 2,	6, 10,	7,	8,	9, 11,		12,	13, 14,	15, 16,	17,	18,		19,	21, 22,	23,	24,	25,	26,	27,	28,		29,	40,		50,	31,	32,	33,	34,	35, 36, 39, 37, 38,	41, 42,	43, 44,	45, 46, 47,		48,	49,		51, 53, 54, 52, 55,	56, 57,	58, 59,	61,	62,
R	1,	2,		3, 4,					5, 6, 7,	8, 9,						11, 12,	13,		14,	15, 16,			17,	18, 19,	21, 22,			24, 23, 25,				26,		27,		28,		29,			31,			32,	30, 33,	35, 34,


L 14
19202-326.97
C45
2,2N
63
R31
3,3K
F2
19203-038.96
450KHZ
C56
68P
R33
100
11,8V BEI AM
R30
2,2K
C62
0,1U
8V BEI AM
H
IC 1
TDA 4100
C43
0,1U
C49
33U
10
C53
33U
10
E
0,3V~BEI AM
27 V BEI EXACT AB-STIMMUNG
27 V
27 V BEI AM
1,1V BEI AM
R34
8,2K
1,6V
R 36
3,3K
C65
470P
63
C66
75P
63
L18
09651-100.93
22MH
C69
10U
16
R 43
220K
R46
220K
FM
AM
C71
4,7U
25
C72
100P
3,0V
C63
27N
L19
09651-100.94
390 MH
C67
2,7N
160
C68
6,8N
63
D
245MV~/FM-40KHZ HUB
60MV~/AM-30% MOD.
24MV~
R47
1,2K
A
R29
5,6K
C46
0,1U
B
L15
19202-326.97
LW
C51
3,3P
C54
3-15P
C57
200P
63
K1
K2
K3
C
P3
09647-021.97
R35
10K
R37
100K
R38
120K
T5
BC548B
C64
10U
16
6,0V BEI MONO
0V BEI STEREO
R39
100K
D1
1N4148
(1N4151)
R32
22
MW
L16
19202-338.10
O4
O5
O6
C58
220P
C61
220P
P5
P6
KW
C52
22P
C55
4-20P
C59
335P
C47
335P
C48
0,33U
L17
19202-620.97
H3
H2
H1
0 + 2,5 V
R41
1K
T6
BC558B
R42
47
R44
1K
6A3
6A4
1C3
1C4
FM-STEREO
D201
CQV37 02
ROT
SIGNAL
1C1
6A1
1C2
6A2
D202
CQV37 02
ROT
R45
150
C
DIODENPLATTE
59350-005.00
C73
0,47U
C74
0,22U
2,4V
R48
3,3K
11,8V
IC 2
MC 1310 P
0831-603.31
(0831-604.25)
-7,5V
C78
820P
63
R55
33K
R54
10K
C79
47N
C81
2,2U
25
UEBERSPRECH-DAEMPFG.
C75
0,22U
D2
1N4148
(1N4151)
R51
82K
R52
15K
R53
10K
PLL OSZ FREQUENZ
C77
470P
63
-7,5V
R49
22K
C76
0,1U
E2 FM-
E3 MONO
D5
D4
D3
D2
D6
TB
CASS
RF
TA
14MV~
R56
36K
14MV~
ENTFAELLT BEI DEEMPHASIS 75USEK
C84
1U
50
L 20
19202-390.97
R58
10K
C82
6,8N
R61
22K
R57
330
C85
47U
25
R59
10K
C83
6,8N
R62
22K
C86
1U
50
L21
19202-390.97
C87
1,5N
63
C89
560P
63
R63
22K
C88
1,5N
63
C91
560P
63
R64
22K
C95
470P
63
C97
470P
63
R65
9,1K
2%
R72
9,1K
2%
C93
470P
63
R67
9,1K
2%
R69
9,1K
2%
C99
470P
63
R68
9,1K
2%
R71
9,1K
2%
C94
470P
63
C101
470P
160
R66
9,1K
2%
R73
9,1K
2%
C96
470P
63
C98
470P
63
D11
D10
D9
D8
D7
TB
CASS
RF
TA
R74
33K
C102
100P
R76
220K
R79
100K
C104
100P
R78
1K
R83
470
C107
4,7U
25
0,6V
T7
BC550
R85
220K
1,4V
C110
2,2N
C108
2,2N
70MV
12MV~
R86
680
L
R
TA
1,4MV~
D17
D16
D15
D14
D18
TB
CASS
RF
TA
R75
33K
C103
100P
R77
220K
R82
100K
C105
100P
R81
1K
12MV~
C109
2,2N
70MV
R87
680
C106
4,7U
25
R84
470
0,6V
T8
BC550
C120
2,2N
1,4V
R88
220K
NUR BEI R300
CASS
94MV~
C92
8,2N
NUR BEI CC 330
C92
8,2N
C1001
0,1U
NUR BEI CC 330
CA 8A
CASS REC
CBF 300
K
KUPPLUNGS-PLATTE
59350-004.00
OHNE ELEKTR. FUNKTION
NUR BEI CC 330
R601
4K
-7A
3K
FILTER:
1 2 3
1 2 3
FARBPUNKT
19203-042.97
1 2 3
6 5 4
19203-038.96
19202-07202-
ANSICHT VON UNTEN
BOTTOM VIEW
VUE DE DESSOUS
VISTA DA SOTTO

TB, (CASS NUR BEI R 300)
1 = AUFNAHME MONO, AUFNAHME STEREO LINKS
2 = MASSE
3 = WIEDERGABE MONO, WIEDERGABE STEREO LINKS
4 = AUFNAHME STEREO RECHTS
5 = WIEDERGABE STEREO RECHTS

TR, (CASS AT R300)
1 = RECORDING MONO, RECORDING LH STEREO
2 = CHASSIS
3 = PLAYBACK MONO, PLAYBACK LH STEREO
4 = RECORDING RH STEREO
5 = PLAYBACK RH STEREO

ENR. (CASS EN R300)
1 = ENREG. MONO, ENREG. STEREO CANAL GAUCHE
2 = MASSE
3 = LECTURE MONO, LECTURE STEREO CANAL GAUCHE
4 = ENREG. STEREO CANAL DROITE
5 = LECTURE STEREO CANAL DROITE

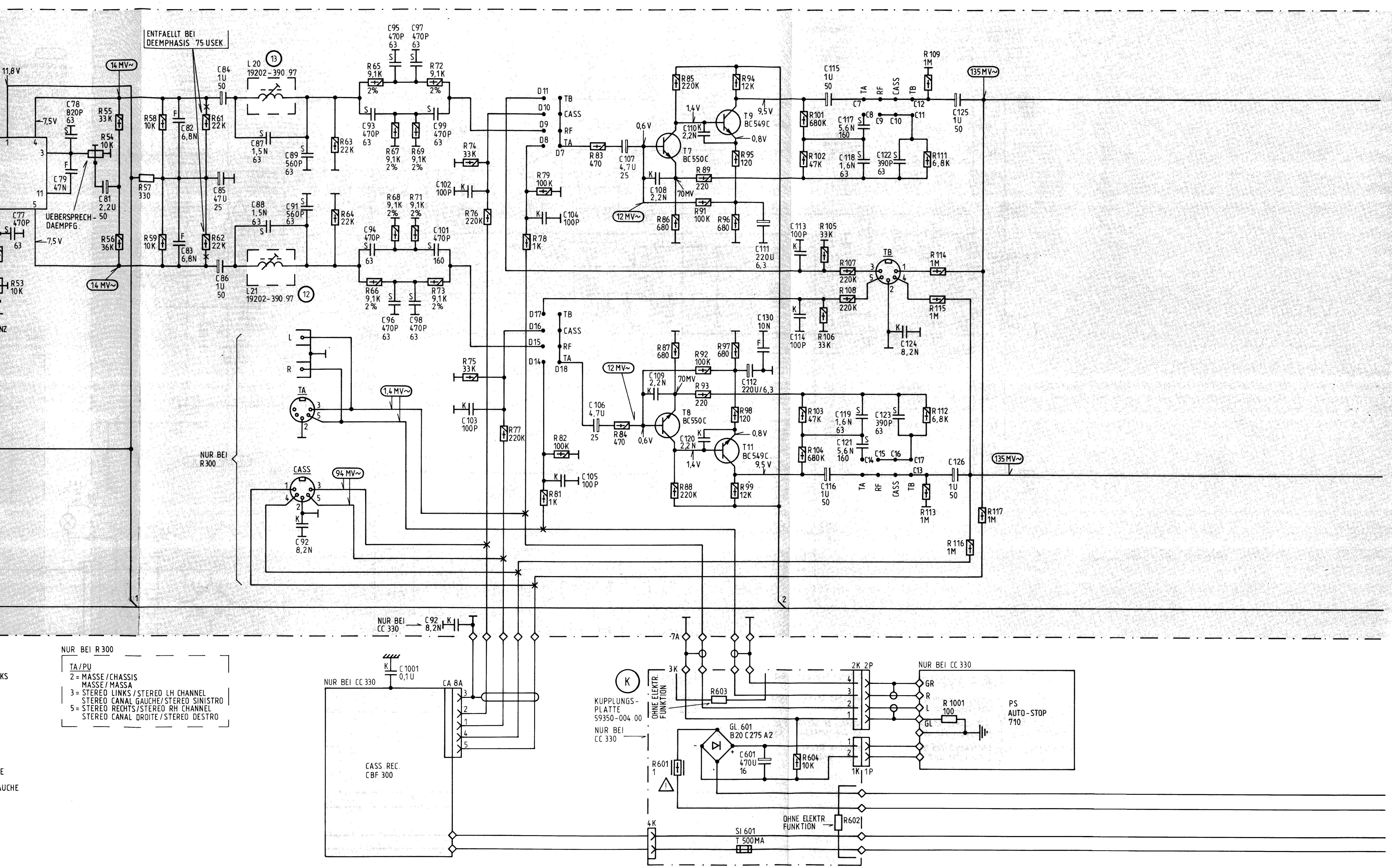
REG. (CASS IN R300)
1 = PRESA MONO, PRESA STEREO SINISTRO
2 = MASSA
3 = RIPROD. MONO, RIPROD. STEREO SINISTRO
4 = PRESA STEREO DESTRO
5 = RIPROD. STEREO DESTRO

NUR BEI R 300

TA/PU
2 = MASSE/CHASSIS
MASSE/MASSA
3 = STEREO LINKS/STEREO LH CHANNEL
STEREO CANAL GAUCHE/STEREO SINISTRO
5 = STEREO RECHTS/STEREO RH CHANNEL
STEREO CANAL DROITE/STEREO DESTRO

44, 45, 46, 47, 48, 49, 51, 53, 54, 52, 55, 56, 57, 58, 59, 61, 62, 63, 65, 66, 64, 67, 68, 69, 71, 72, 73, 74, 75, 76, 77, 78, 79, 81, 82, 83, 84, 85, 86, 87, 88, 89, 91, 92, 93, 94, 95, 96, 1001, 97, 98, 99, 101, 102, 103, 104, 105, 106, 107, 108, 109,

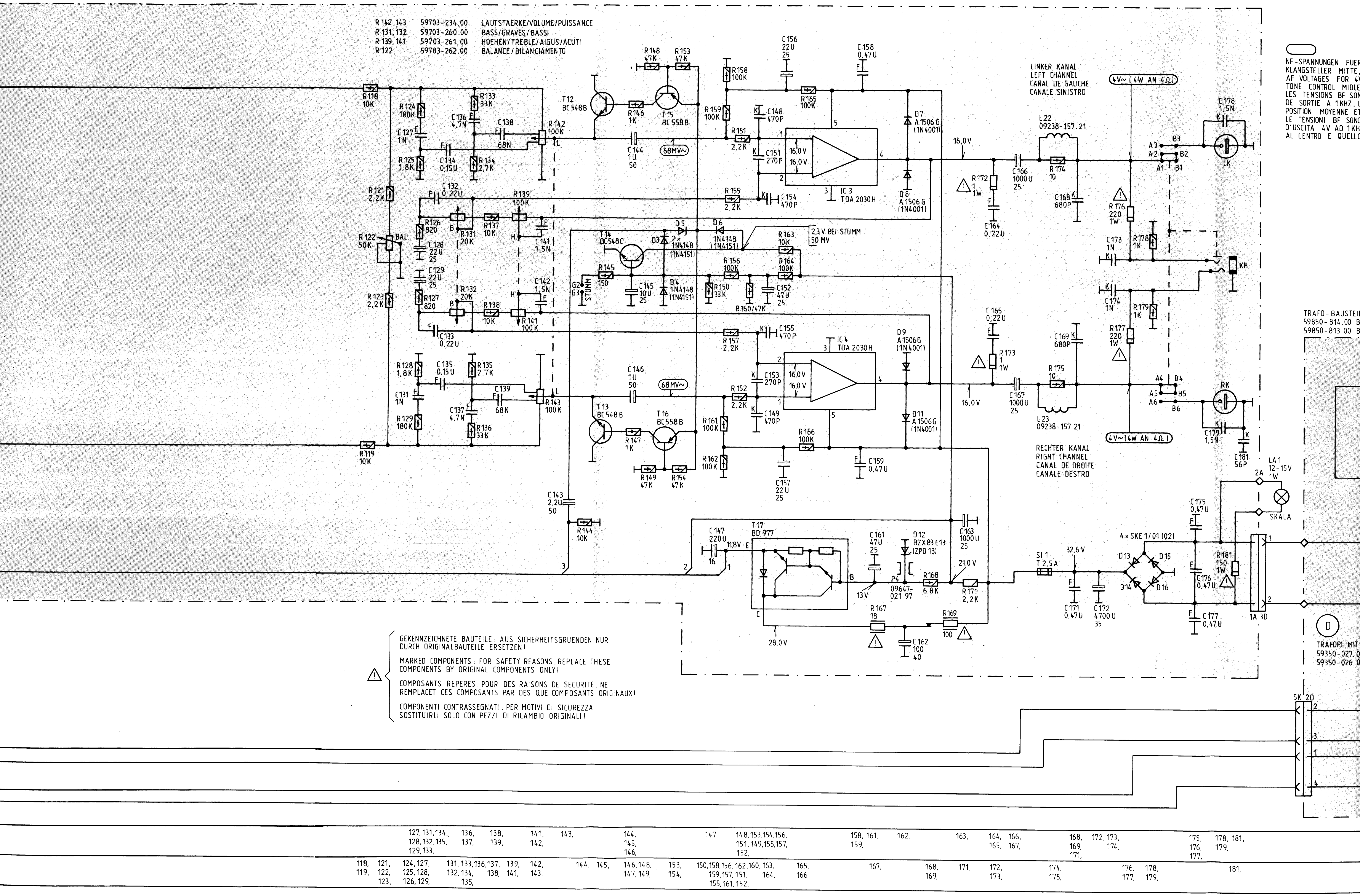
3, 29, 31, 32, 30, 33, 35, 34, 36, 37, 38, 39, 41, 42, 43, 44, 46, 45, 47, 48, 49, 51, 52, 53, 54, 55, 56, 57, 58, 59, 61, 62, 63, 64, 65, 66, 67, 68, 69, 71, 72, 73, 74, 75, 76, 77, 78, 79, 81, 82, 83, 84, 85, 88, 86, 601, 87,



ENTFAELLT BEI DEEMPHASIS 75 USEK
14 MV~
135 MV~
12 MV~
94 MV~
1,4 MV~
L 20 19202-390 97
L 21 19202-390 97
T7 BC550C
T8 BC550C
T9 BC549C
T11 BC549C
UEBERSPRECH-DAEMPFG.
TB
CASS
RF
TA
NUR BEI R300
NUR BEI CC 330
NUR BEI R 300
TA/PU
2 = MASSE/CHASSIS MASSE/MASSA
3 = STEREO LINKS/STEREO LH CHANNEL STEREO CANAL GAUCHE/STEREO SINISTRO
5 = STEREO RECHTS/STEREO RH CHANNEL STEREO CANAL DROITE/STEREO DESTRO
CASS REC. CBF 300
CA 8A
KUPPLUNGS-PLATTE 59350-004 00
OHNE ELEKTR. FUNKTION
GL 601 B20 C275 A2
SI 601 T 500MA
PS AUTO-STOP 710
GR
R
L
GL
R 1001 100

77., 78., 79., 81., 82., 83., 84., 85., 86., 87., 88., 89., 91., 92., 93., 94., 95., 96., 1001., 97., 98., 99., 101., 102., 103., 104., 105., 106., 107., 108., 109., 110., 120., 130., 111., 112., 601., 113., 114., 115., 116., 117., 121., 118., 119., 122., 124., 123., 125., 126.

2., 3., 54., 55., 56., 57., 58., 59., 61., 62., 63., 64., 65., 66., 67., 68., 69., 71., 72., 73., 74 76., 77., 75., 78., 79., 81., 82., 83., 84., 85., 88., 89., 93., 86., 601., 91., 603., 87., 92., 94., 97., 95., 98., 96., 99., 604., 101., 104., 107., 102., 105., 108., 103., 106., 602, 109., 113., 1001., 116., 117., 111., 114., 112., 115.


R 142,143 59703-234.00 LAUTSTAERKE/VOLUME/PUISSANCE
R 131,132 59703-260.00 BASS/GRAVES/BASSI
R 139,141 59703-261.00 HOEHEN/TREBLE/AIGUS/ACUTI
R 122 59703-262.00 BALANCE/BILANCIAMENTO
LINKER KANAL
LEFT CHANNEL
CANAL DE GAUCHE
CANALE SINISTRO
RECHTER KANAL
RIGHT CHANNEL
CANAL DE DROITE
CANALE DESTRO
4V~ (4W AN 4Ω)
68MV~
2,3 V BEI STUMM
50 MV
STUMM
IC 3 TDA 2030 H
IC 4 TDA 2030 H
T12 BC548B
T13 BC548 B
T14 BC548C
T15 BC558B
T16 BC558 B
T17 BD 977
D7 A 1506 G (1N4001)
D8 A 1506 G (1N4001)
D9 A 1506G (1N4001)
D11 A 1506G (1N4001)
D3 2× 1N4148 (1N4151)
D4 1N4148 (1N4151)
D5
D6 1N4148 (1N4151)
D12 BZX 83 C13 (ZPD 13)
P4 09647-021.97
L 22 09238-157.21
L 23 09238-157.21
16,0 V
16,0V
11,8V
13 V
21,0 V
28,0 V
32,6 V
SI 1 T 2,5 A
4 × SKE 1/01 (02)
D13
D14
D15
D16
LA 1 12-15V 1W
SKALA
LK
RK
KH
BAL
A1 A2 A3 A4 A5 A6
B1 B2 B3 B4 B5 B6
1A 3D
2A
5K 2D
G2 G3
NF-SPANNUNGEN FUER
KLANGSTELLER MITTE,
AF VOLTAGES FOR 4V
TONE CONTROL MIDLE
LES TENSIONS BF SON
DE SORTIE A 1 KHZ, L
POSITION MOYENNE ET
LE TENSIONI BF SONO
D'USCITA 4V AD 1KH
AL CENTRO E QUELLO
TRAFO-BAUSTEI
59850-814.00 B
59850-813.00 B
D
TRAFOPL. MIT
59350-027.0
59350-026.0
R118 10K
R119 10K
R121 2,2K
R122 50K
R123 2,2K
R124 180K
R125 1,8K
R126 820
R127 820
R128 1,8K
R129 180K
R131 20K
R132 20K
R133 33K
R134 2,7K
R135 2,7K
R136 33K
R137 10K
R138 10K
R139 100K
R141 100K
R142 100K
R143 100K
R144 10K
R145 150
R146 1K
R147 1K
R148 47K
R149 47K
R150 33K
R151 2,2K
R152 2,2K
R153 47K
R154 47K
R155 2,2K
R156 100K
R157 2,2K
R158 100K
R159 100K
R160/47K
R161 100K
R162 100K
R163 10K
R164 100K
R165 100K
R166 100K
R167 18
R168 6,8K
R169 100
R171 2,2K
R172 1 1W
R173 1 1W
R174 10
R175 10
R176 220 1W
R177 220 1W
R178 1K
R179 1K
R181 150 1W
C127 1N
C128 22U 25
C129 22U 25
C131 1N
C132 0,22U
C133 0,22U
C134 0,15U
C135 0,15U
C136 4,7N
C137 4,7N
C138 68N
C139 68N
C141 1,5N
C142 1,5N
C143 2,2U 50
C144 1U 50
C145 10U 25
C146 1U 50
C147 220U 16
C148 470P
C149 470P
C151 270P
C152 47U 25
C153 270P
C154 470P
C155 470P
C156 22U 25
C157 22U 25
C158 0,47U
C159 0,47U
C161 47U 25
C162 100 40
C163 1000U 25
C164 0,22U
C165 0,22U
C166 1000U 25
C167 1000U 25
C168 680P
C169 680P
C171 0,47U
C172 4700U 35
C173 1N
C174 1N
C175 0,47U
C176 0,47U
C177 0,47U
C178 1,5N
C179 1,5N
C181 56P
127, 131, 134, 128, 132, 135, 129, 133, 136, 137, 138, 139, 141, 142, 143, 144, 145, 146, 147, 148, 153, 154, 156, 151, 149, 155, 157, 152, 158, 161, 159, 162, 163, 164, 165, 166, 167, 168, 169, 171, 172, 173, 174, 175, 176, 177, 178, 179, 181
118, 119, 121, 122, 123, 124, 127, 125, 128, 126, 129, 131, 133, 136, 137, 132, 134, 135, 138, 139, 141, 142, 143, 144, 145, 146, 148, 147, 149, 153, 154, 150, 158, 156, 162, 160, 163, 159, 157, 151, 155, 161, 152, 164, 165, 166, 167, 168, 169, 171, 172, 173, 174, 175, 176, 177, 178, 179, 181

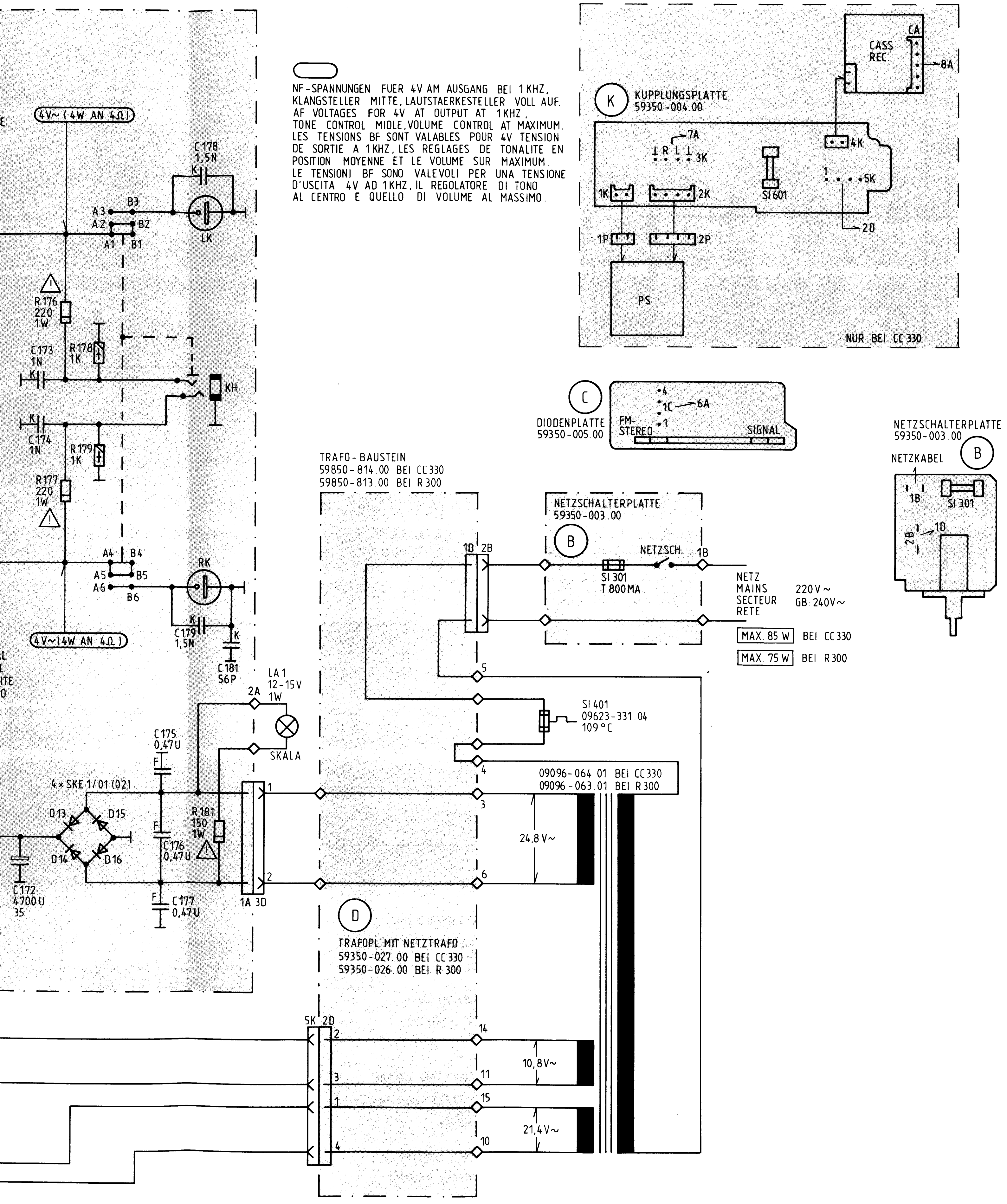
⚠

GEKENNZEICHNETE BAUTEILE: AUS SICHERHEITSGRUENDEN NUR DURCH ORIGINALBAUTEILE ERSETZEN!

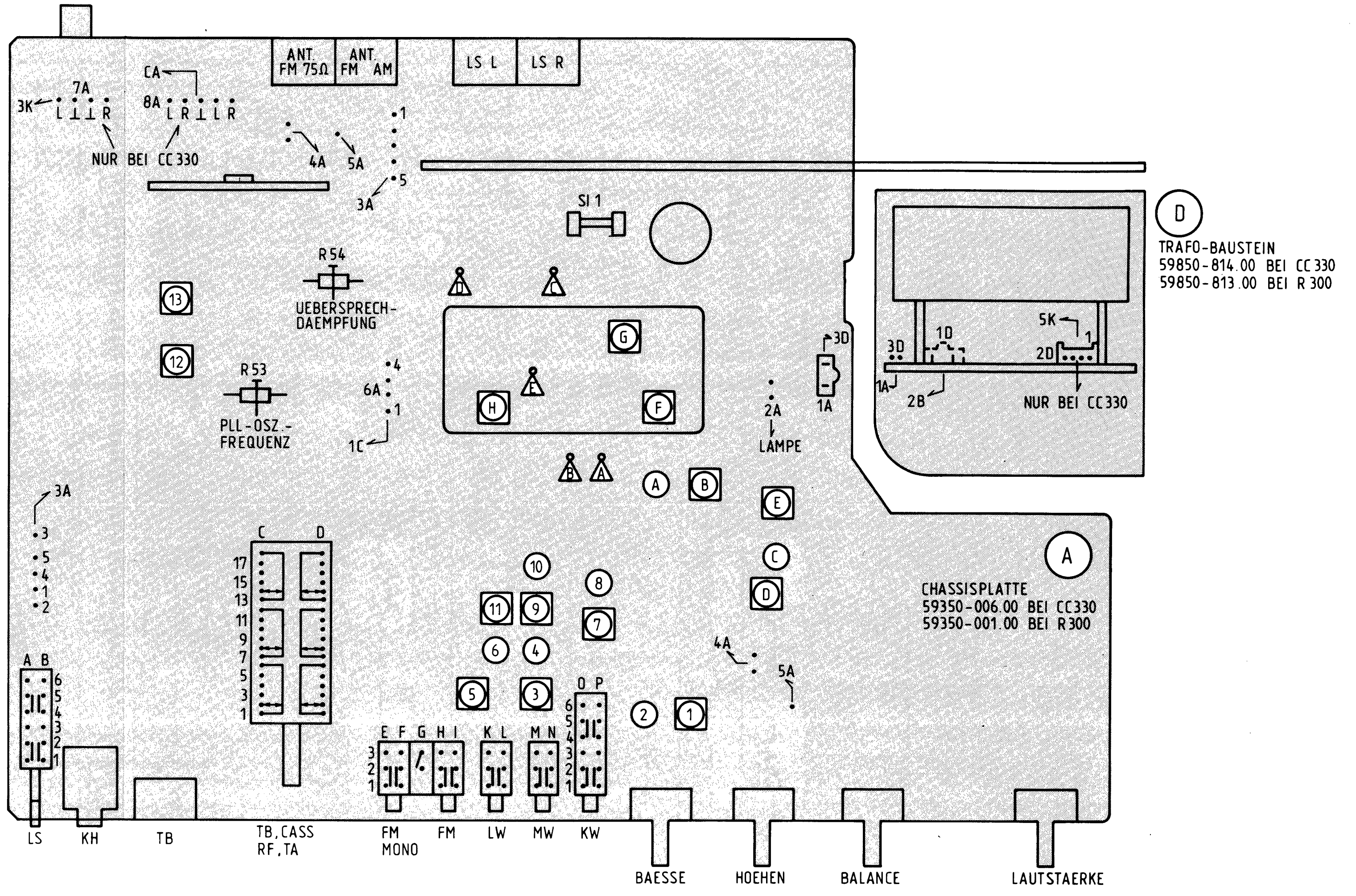
MARKED COMPONENTS: FOR SAFETY REASONS, REPLACE THESE COMPONENTS BY ORIGINAL COMPONENTS ONLY!

COMPOSANTS REPERES: POUR DES RAISONS DE SECURITE, NE REMPLACET CES COMPOSANTS PAR DES QUE COMPOSANTS ORIGINAUX!

COMPONENTI CONTRASSEGNATI: PER MOTIVI DI SICUREZZA SOSTITUIRLI SOLO CON PEZZI DI RICAMBIO ORIGINALI!


4V~ (4W AN 4Ω)
C178 1,5N
LK
R176 220 1W
C173 1N
R178 1K
KH
C174 1N
R179 1K
R177 220 1W
RK
C179 1,5N
C181 56P
LA1 12-15V 1W
SKALA
C175 0,47U
4×SKE 1/01 (02)
D13
D15
D14
D16
R181 150 1W
C176 0,47U
C177 0,47U
C172 4700U 35
K KUPPLUNGSPLATTE 59350-004.00
CASS. REC.
PS
SI 601
NUR BEI CC 330
C DIODENPLATTE 59350-005.00
FM-STEREO
SIGNAL
TRAFO-BAUSTEIN 59850-814.00 BEI CC330 59850-813.00 BEI R 300
NETZSCHALTERPLATTE 59350-003.00
B
SI 301 T 800MA
NETZSCH.
NETZ MAINS SECTEUR RETE 220V~ GB: 240V~
MAX. 85 W BEI CC 330
MAX. 75 W BEI R 300
SI 401 09623-331.04 109°C
09096-064.01 BEI CC330
09096-063.01 BEI R 300
24,8 V~
D TRAFOPL. MIT NETZTRAFO 59350-027.00 BEI CC 330 59350-026.00 BEI R 300
10,8 V~
21,4 V~
NETZSCHALTERPLATTE 59350-003.00
NETZKABEL
SI 301

NF-SPANNUNGEN FUER 4V AM AUSGANG BEI 1 KHZ, KLANGSTELLER MITTE, LAUTSTAERKESTELLER VOLL AUF.
AF VOLTAGES FOR 4V AT OUTPUT AT 1 KHZ, TONE CONTROL MIDLE, VOLUME CONTROL AT MAXIMUM.
LES TENSIONS BF SONT VALABLES POUR 4V TENSION DE SORTIE A 1 KHZ, LES REGLAGES DE TONALITE EN POSITION MOYENNE ET LE VOLUME SUR MAXIMUM.
LE TENSIONI BF SONO VALEVOLI PER UNA TENSIONE D'USCITA 4V AD 1 KHZ, IL REGOLATORE DI TONO AL CENTRO E QUELLO DI VOLUME AL MASSIMO.


ANT. FM 75Ω
ANT. FM AM
LS L
LS R
NUR BEI CC 330
SI 1
R54 UEBERSPRECH-DAEMPFUNG
R53 PLL-OSZ.-FREQUENZ
LAMPE
D TRAFO-BAUSTEIN 59850-814.00 BEI CC 330 59850-813.00 BEI R 300
NUR BEI CC330
A CHASSISPLATTE 59350-006.00 BEI CC 330 59350-001.00 BEI R 300
LS
KH
TB
TB, CASS RF, TA
FM MONO
FM
LW
MW
KW
BAESSE
HOEHEN
BALANCE
LAUTSTAERKE

SPANNUNGEN MIT GRUNDIG VOLTMETER (RI = 10 MΩ) BEI 220 V~ OHNE SIGNAL GEMESSEN, BEI FM, SOWEIT NICHT ANDERS ANGEGEBEN.
VOLTAGES MEASURED WITH GRUNDIG-VTM (RI = 10 MΩ) AT 220 V AC, AND NO SIGNAL APPLIED, AT FM, UNLESS OTHERWISE INDICATED.
TENSIONS MESUREES AVEC GRUNDIG VOLTM. (RI = 10 MΩ) A 220 V~ TENSION SECTEUR ET SANS SIGNAL, A FM, SAUF INDICATION CONTRAIRE.
TENSIONI MISURATE CON VOLTM. GRUNDIG (RI = 10 MΩ) CON 220 V~ IN ASSENZA DI SEGNALE, CON FM, SE NON DIVERSAMENTE SPECIFICATO.

GRUNDIG

R 300

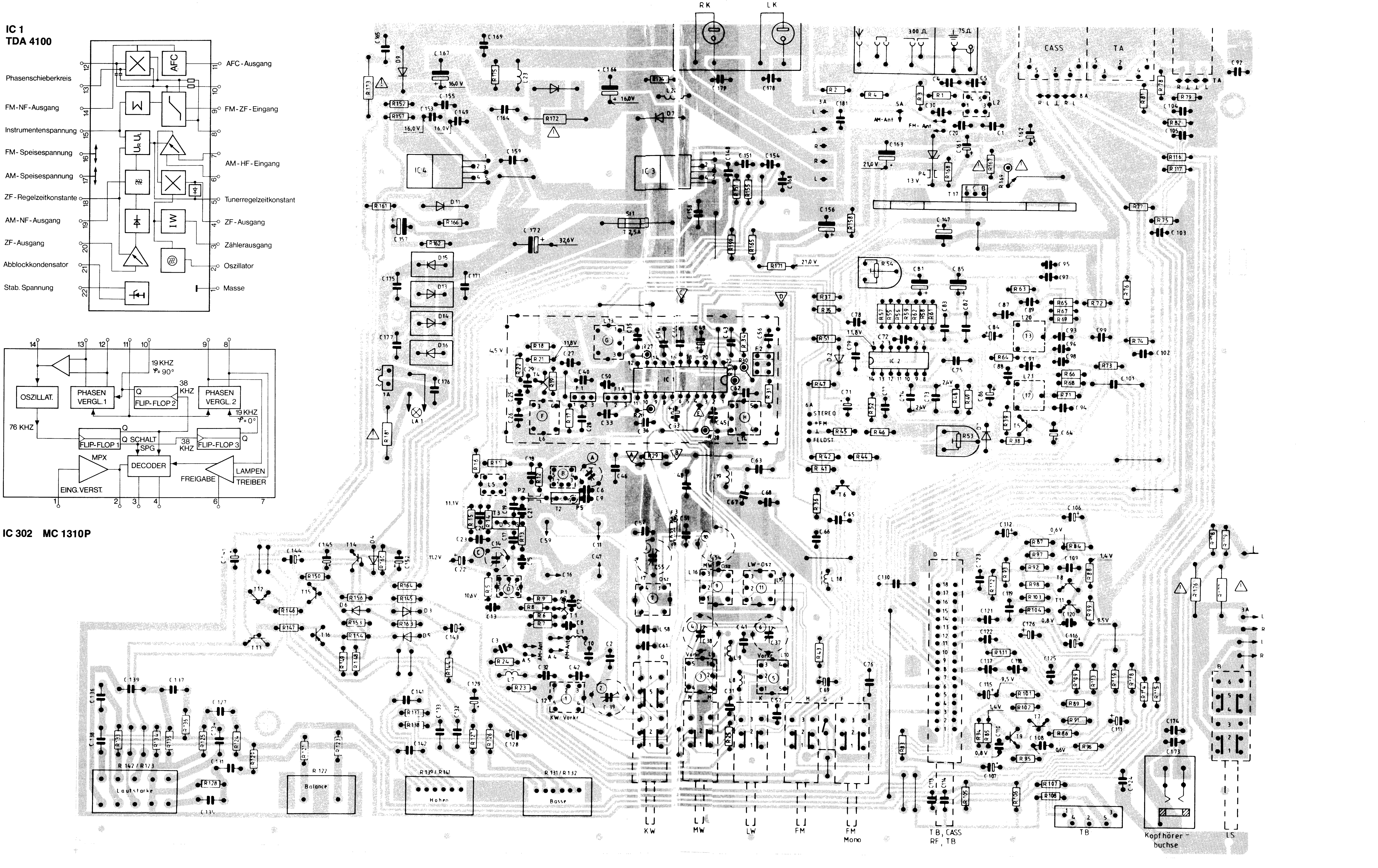
CC 330

58512-906.01

172, 173, 174,			175, 176, 177,	178, 181, 179,	C
	176, 177,	178, 179,		181,	R

Chassis-Platte, Lötseite **59350-006.00 bei CC 330**
CHASSIS BOARD, SOLDER SIDE **59350-001.00 bei R 300**
CIRCUIT IMPRIME CHASSIS, COTE SOUDURES
PIASTRA CHASSIS, LATO SALDATURE

IC 1
TDA 4100



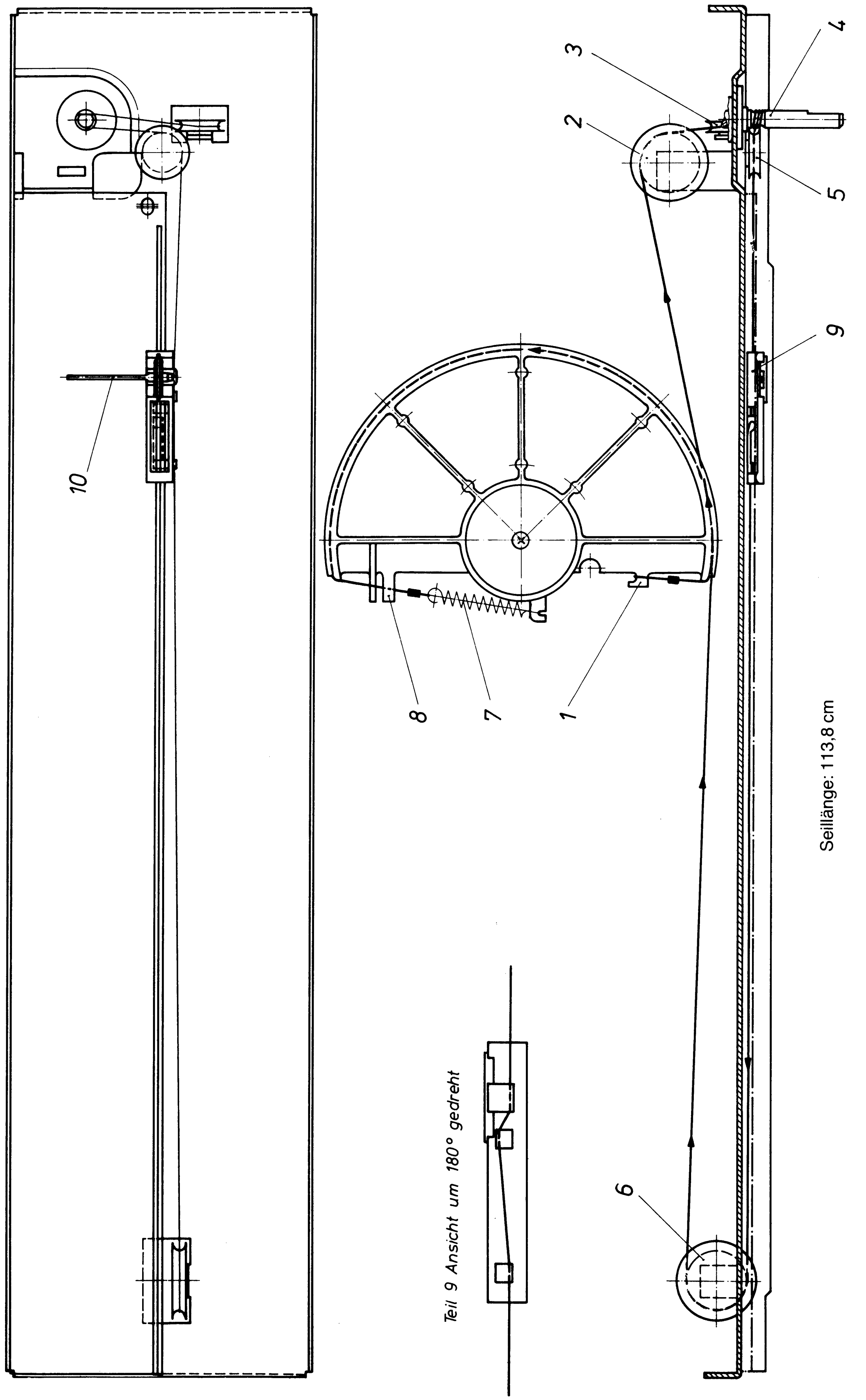
Phasenschieberkreis
FM-NF-Ausgang
Instrumentenspannung
FM-Speisespannung
AM-Speisespannung
ZF-Regelzeitkonstante
AM-NF-Ausgang
ZF-Ausgang
Abblockkondensator
Stab. Spannung
AFC-Ausgang
FM-ZF-Eingang
AM-HF-Eingang
Tunerregelzeitkonstant
ZF-Ausgang
Zählerausgang
Oszillator
Masse
AFC
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

14 13 12 11 10 9 8
OSZILLAT.
PHASEN VERGL. 1
FLIP-FLOP 2
PHASEN VERGL. 2
19 KHZ φ= 90°
38 KHZ
19 KHZ φ= 0°
76 KHZ
FLIP-FLOP 1
Q SCHALT SPG
38 KHZ
FLIP-FLOP 3
MPX
DECODER
LAMPEN TREIBER
FREIGABE
EING. VERST.
1 2 3 4 6 7

IC 302 MC 1310P

RK
LK
300 Ω
75 Ω
CASS
TA
IC 4
IC 3
IC 1
IC 2
Si 1 T 2,5A
AM-Ant
FM-Ant
STEREO
FM
FELDST
KW-Vorkr
MW Osz
LW-Osz
Vorkr
Lautstärke
R 142 / R 123
R 122
Balance
R 139 / R 141
Höhen
R 131 / R 132
Bässe
KW
MW
LW
FM
FM Mono
TB, CASS RF, TB
TB
Kopfhörer-buchse
LS

7. AM-FM-Seilzug


3
4
2
5
9
10
8
7
1
6
Teil 9 Ansicht um 180° gedreht

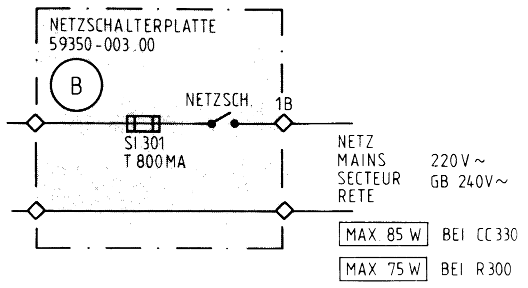
Seillänge: 113,8 cm

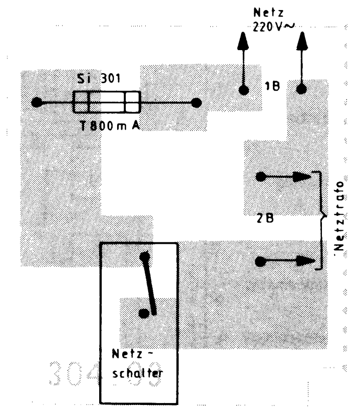
Seilmontage:

1. Drehkontensator eindrehen
2. Die größere Seilöse in den Haken ① einhängen. Das Seil in die unterste Rille des Antriebrades einlegen und zu den Seilrollen ② und ③ führen.
3. Das Skalenseil über die Seilaufrille der Schwungradachse ④ mit 2¾ Umschlingungen von rechts nach links wickeln und um die Seilrolle ⑤ legen (Seil sichern).
4. Freies Seilende durch die Aussparung der Seilrolle ⑥ fädeln bzw. auflegen und über die oberste Rille des Antriebsrades zurückführen.
5. Das Seilende in die vormontierte Zugfeder ⑦ einhängen und nach Skizze um die Zugentlastung ⑧ schlingen.
6. Zeigerführung ⑨, mit Zeiger ⑩ in das Seil nach Skizze einhängen.

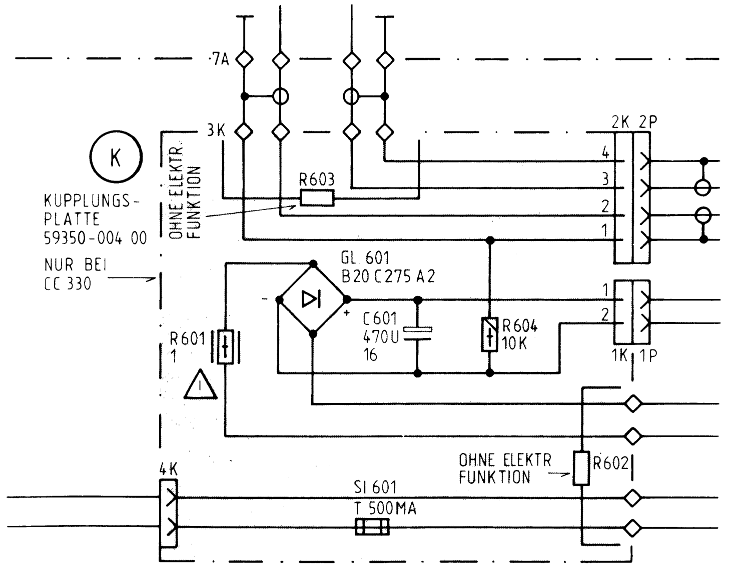
Änderungen vorbehalten! Printed in Germany 23146 050982 RDN

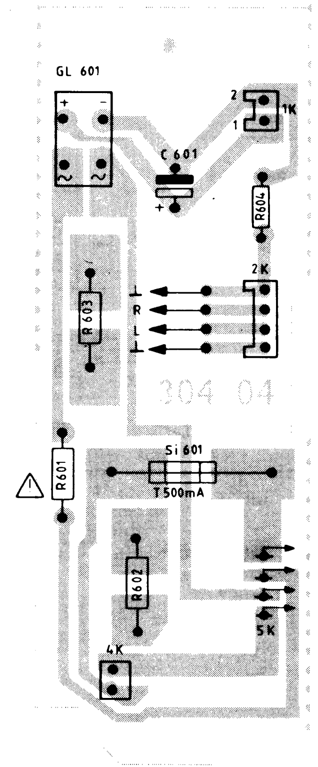
Netzschalterplatte, Lötseite **59350-003.00**
MAINS SWITCH BOARD, SOLDER SIDE
CIRCUIT IMPRIME INTERRUPTEUR SECTEUR, COTE SOUDURES
PIASTRA INTERRUTTORE DI RETE, LATO SALDATURE


NETZSCHALTERPLATTE
59350-003.00
B
NETZSCH.
1B
SI 301
T 800 MA
NETZ
MAINS
SECTEUR
RETE
220 V~
GB 240V~
MAX 85 W
BEI CC 330
MAX 75 W
BEI R 300

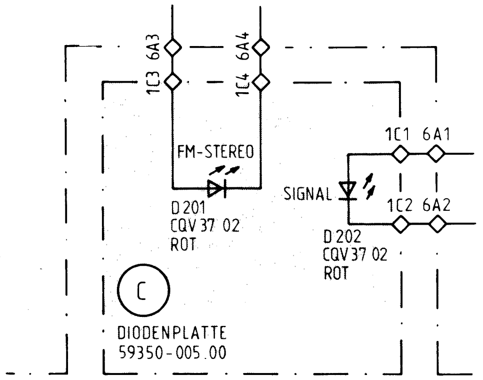

Netz
220V~
Si 301
T 800m A
1B
2B
Netztrafo
Netz-
schalter
304

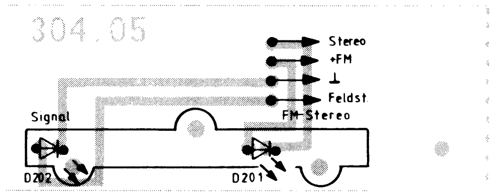
Kupplungs-Platte, Lötseite **59350-004.00**
COUPLING BOARD, SOLDER SIDE
CIRCUIT IMPRIME DE COUPLAGE, COTE SOUDURES
PIASTRA DI ACCOPPIAMENTO, LATO SALDATURE


7A
3K
K
KUPPLUNGS-
PLATTE
59350-004 00
NUR BEI
CC 330
OHNE ELEKTR.
FUNKTION
R603
2K 2P
4
3
2
1
GL 601
B20 C275 A2
C601
470U
16
R604
10K
R601
1
1K 1P
OHNE ELEKTR
FUNKTION
R602
4K
SI 601
T 500MA


GL 601
C 601
1K
R604
2K
R603
R
L
304 04
Si 601
T 500mA
R601
R602
4K
5K

Dioden-Platte, Lötseite **59350-005.00**
DIODES BOARD, SOLDER SIDE
CIRCUIT IMPRIME DIODES, COTE SOUDURES
PIASTRA DIODI, LATO SALDATURE


1C3 6A3
1C4 6A4
FM-STEREO
1C1 6A1
SIGNAL
1C2 6A2
D201
CQV 37 02
ROT
D202
CQV 37 02
ROT
C
DIODENPLATTE
59350-005.00


304 05
Stereo
+FM
Feldst
FM-Stereo
Signal
D202
D201